NEW EQUIPMENT DIGEST

A Penton Publication

May, 1959

Volume 24—Number 5

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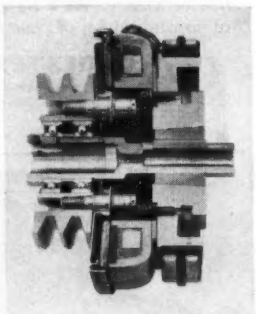
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 16 and 88

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

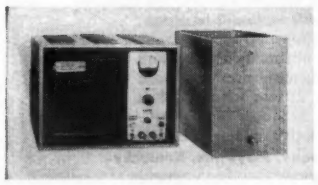
ELECTRIC CLUTCH & SHEAVE
packaged units rated 1 to 25 hp



Five sizes of Electro-Sheave packaged electric clutch and sheave assemblies are designed for use in new or existing machinery. They engage or release at any speed, provide means for no-load starting, permit inching or jogging with several starts in less than one revolution, and release instantaneously. The brake is applied without plugging. Assembly is installed on shaft with key and setscrew. Electrical connections are then made to the clutch and brushholder. The drive motor runs continuously, and the load is applied as desired, often permitting use of a smaller motor. Use of rheostat allows matching of starting torque to load. Pushbuttons, relays, and automatic devices can be used to control the unit. Ratings range from 1 to 25 hp. Made by **Warner Electric Brake & Clutch Co.**, Beloit, Wis.

▲ For more details circle **NED-1 E9** on enclosed inquiry slip ▲

ULTRASONIC CLEANERS
remove flux, fingerprints, wax, oil



Generator and matching transducerized 1-to-20 gal tank with output from 60 to 1000 w make up Circosonic multipurpose ultrasonic cleaners. They remove excess solder flux, fingerprints, lint, waxes, grease, and polishing compounds from gears, bearings, instruments, etc. Electronic pulsed type generators give two to four times the energy transmission into the liquid on "peak pulse." Tuning is continuous over a wide range. A selector switch enables operation of two tanks from the same generator. Barium titanate transducers are bonded under pressure to the bottom of the stainless steel tanks. Made by **Circo Ultrasonic Corp.**, 50 Terminal Ave., Clark, N. J.

▲ For more details circle **NED-2 E9** on enclosed inquiry slip ▲

COMPOUND LEVERAGE WRENCH
loosens stubborn frozen fittings

Stubborn pipe fittings can be tightened or loosened easily and safely with this Ridgid compound leverage wrench. Pressure applied on the malleable handle is multiplied by two as the adjustable hook jaw turns the pipe in one direction, while the offset chain vise head grips the fitting and exerts an equal pressure in the opposite direction. Short handle makes it suitable for close quarters. Made with alloy tool steel jaws, wrenches are available in four sizes for 2 to 8-in. pipe. Made by **Ridge Tool Co.**, Box 670, Elyria, Ohio.

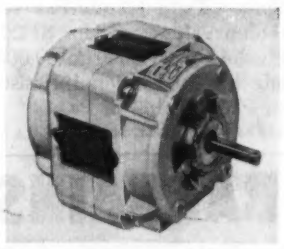
▲ For more details circle **NED-3 E9** on enclosed inquiry slip ▲

FLEXIBLE MAGNET
can be made in continuous lengths

Made of a specially compounded and processed Koroseal vinyl plastic, this flexible permanent magnet reacts exactly like metal and ceramic magnets. It is attracted to ferrous metals or to itself and can be magnetized in any direction. Continuous lengths in an unlimited number of shapes can be produced in sizes ranging from that of spaghetti to garden hose. It can be cut without impairing magnetic qualities. Compounds can be varied to give any desired amount of flexibility, softness, and magnetic strength. Material is expected to have many applications in closures, appliances, office equipment and supplies, and electronics, among others. It is presently being used inside a Koroseal gasket to form an airtight seal around a refrigerator door while serving in place of a latch. Made by **B. F. Goodrich Industrial Products Co.**, 500 S. Main St., Akron, Ohio.

▲ For more details circle **NED-4 E9** on enclosed inquiry slip ▲

MINIATURE MOTOR
1/300 to 1/30 hp induction sizes



Magnetic and electric circuits with 24/20 slots, sinusoidally distributed windings, and internal rotor slotting give the Model 9200 miniature induction motor quiet operation, and low level magnetic hum, and low temperature rise. It has open, self-ventilated construction, low external magnetic field, and minimum cogging and hunting. Six types of mountings are possible. Frame size is $2\frac{7}{8}$ x $2\frac{7}{8}$ in. Over-all lengths are 4 1/32 and 4 13/32 in. Permanent split capacitor, single-phase, 50/60 cycle motor is offered in induction, torque, and synchronous types and two and three-phase designs. Ratings are from 1/300 to 1/30 hp. Porous bronze sleeves and ball bearings are other options. Made by **Howard Industries, Inc.**, 1760 State St., Racine, Wis.

▲ For more details circle **NED-5 E9** on enclosed inquiry slip ▲

PART-HOLDING PLIERS
pistol grip affords convenience

Assembly jobs involving miniature units are facilitated with this No. 800 Lock - GriPlier. Locking jaws securely hold small washers, wires, screws, and other hard-to-handle objects. When used for soldering work, it acts as a heat sink. Trigger frees the grip. Cutting and stripping wire is possible with the notched case-hardened steel jaws. Price is $4.50. Made by **Handicraft Tools, Inc.**, 48-41 Van Dam St., Long Island City 1, N. Y.

▲ For more details circle **NED-6 E9** on enclosed inquiry slip ▲

LEVER HOISTS
improved lever bars ease operation

Lever bars and handles now provided in Thern lever hoists increase their strength and ease of operation. Lever bar adds sideway rigidity to handle. Tubular handle will bend under severe overloading. Control of lifting or lowering is achieved by single turn of the knob on side of the lever bar. Hoists have heavy aluminum blocks with malleable hooks. They operate in any position and are available in $\frac{1}{2}$, $\frac{3}{4}$, 1, and $1\frac{1}{2}$-ton capacity. Standard lift is 5 ft, although other lifts can be specified. Made by **Thern Machine Co.**, 3760 W. Fourth St., Winona, Minn.

▲ For more details circle **NED-7 E9** on enclosed inquiry slip ▲

SPLINE GAGE
checks "between pin" dimensions

Dimensions between the pins of splines and internal gears can be checked with the expanding type Comtorplug to which have been added gage wires. Gages are applicable to work having between - pin dimensions from $\frac{3}{8}$ to 10 in. and are designed for either odd-tooth, or even-tooth work. They will be designed to user specifications. Gage dial with large 0.0001-in. graduations provides a fixed reading of the dimension. Made by **Comtor Co.**, 73 Farwell St., Waltham 54, Mass.

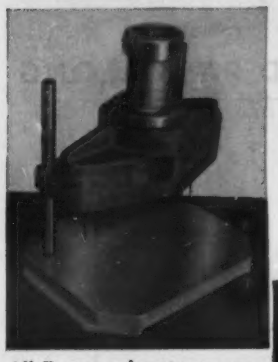
▲ For more details circle **NED-8 E9** on enclosed inquiry slip ▲

SIDE TRANSFER ATTACHMENT
fits any standard fork lift truck

Fork truck operator can pick up and discharge unit loads without the usual 90 - degree turn when using the Stow (Side Transfer Optimum Warehousing) system attachment. It will fit any standard counterbalanced fork lift truck and requires an aisle only a few inches wider than maximum load width. Pallets, skids, wire containers, dies, and other unit loads or containers normally moved by fork trucks can be handled by this attachment. Channeled racks support the attachment during operations, and load cannot become unbalanced. A 2500-lb capacity attachment is used with a 4000-lb capacity truck. Attachments are offered to handle up to 48 x 48-in. pallet sizes. Made by **Equipment Mfg., Inc.**, 21550 Hoover Rd., Detroit 5, Mich.

▲ For more details circle **NED-9 E9** on enclosed inquiry slip ▲

FOR STRAIGHT-LINE DRILLING, REAMING, TAPPING,



Use **Zagar's IN-LINE HEAD**

Designed specifically for long, narrow hole patterns!

All Zagar advantages are included in the IN-LINE head. Any number of holes, in any pattern, on all centers within the area, can be drilled, tapped or reamed simultaneously in any material. Spindle diameters ¼" through 1". IN-LINE heads can be mounted on any standard drill press. You'll get full engineering data when you—

Write for Bulletin N-905

ZAGAR, INC. • 23880 Lakeland Blvd., Cleveland 23, Ohio

Zagar TOOLS FOR INDUSTRY and SPECIAL MACHINERY

▲ For more details circle NED-10 E9 on enclosed inquiry slip ▲

SMALL BORE CYLINDERS

AIR AND HYDRAULIC

- **Sizes:** 3/4"—1 1/8"—1 1/2"—2" bore.
- **Stroke Lengths:** To suit.
- **Mountings:** Nose or rod end, trunnions, flange, foot or clevis. (Mounting brackets available.)
- Non-corrosive throughout.
- Heavy wall tube (1/8" thick brass, pump cylinder finish).
- Polished and ground stainless steel piston rods.
- All parts easily and economically serviced. (No brazed joints. All lock threaded assembly.)
- 0-500 psi operating pressure range.
- Aircraft type O-ring seals. (Buna N standard compound.)
- T rings available for higher pressures.
- Base prices start from $6 plus 40c per inch of stroke.

IMMEDIATE DELIVERY FROM STOCK.

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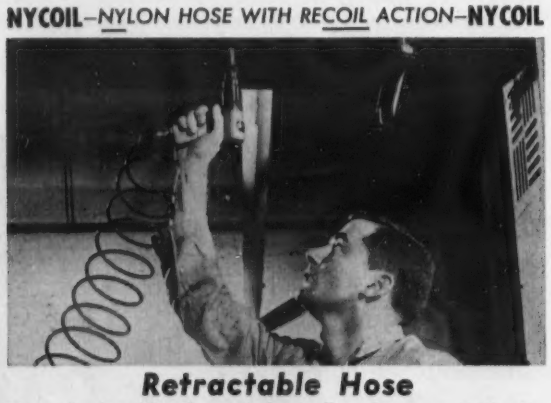
8583 PROSPECT RD.

CLEVELAND 36, OHIO PHONE: BErea 4-2184

▲ For more details circle NED-11 E9 on enclosed inquiry slip ▲

NYCOIL—NYLON HOSE WITH RECOIL ACTION—NYCOIL



Retractable Hose

Not only does Nycoil permit better flow, but saves production time, aids housekeeping and increases safety . . . because it expands and contracts automatically on demand, without recoil mechanisms.

Ideal for high pneumatic or low hydraulic pressure applications. Durable.

Order today

Standard 25 ft. Nycoil assembly complete with 1/4" P. T. male flare fitting at each end.

CODE	SIZE	WORK PRESS.	PRICE
N 3/16-25 Nycoil	3/16 I.D.	400 (psi)	$7.00 complete
N 1/4-25 Nycoil	1/4 I.D.	300 (psi)	9.00 "
N 5/16-25 Nycoil	5/16 I.D.	250 (psi)	13.50 "

Send check or Purchase Order for immediate delivery

Nycoil COMPANY

P.O. BOX 296-A WESTFIELD, NEW JERSEY

▲ For more details circle NED-12 E9 on enclosed inquiry slip ▲

Attend the Material Handling Show

Since material handling is of such importance to industry, we heartily recommend that you attend the 1959 Exposition of the Material Handling Institute. It will be held in the Public Auditorium in Cleveland from June 9 through June 12, 1959.

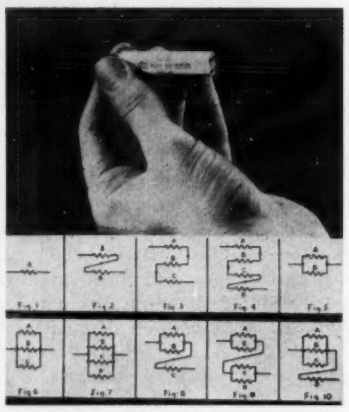
Concurrently with this show, the MHI will stage a series of morning technical sessions with speakers who are experts in various phases of material handling techniques and equipment. "Breakthrough" is the central theme of these sessions. Papers will relate to breaking through material handling costs to lower production expenses and increase profits. A secondary theme will deal with management, engineering, and application procedures.

Over 200 manufacturers of material handling equipment will display their products. Engineers will be on hand to discuss any problems or answer any questions. As always, NEW EQUIPMENT DIGEST will have an exhibit, and you will be welcome to visit, consult with us, or just relax in our booth.

Complete information regarding the 1959 MHI Exposition and Conference can be obtained by writing: The Material Handling Institute, 1 Gateway Center, Pittsburgh 22, Pa.

A. N. Gregg
EDITOR

MULTIRANGE RESISTORS cover 0.5 to 50,000 ohm values



Five basic units comprising IRC Multi-Range resistors deliver 200 fixed resistance values, including nearly all those values adopted as standard by the Electronic Industries Association. The Multi-Range arrangement makes use of four separate 10-w wire-wound resistors of two or four values each, all encased in a common Steatite housing. By connecting leads in series, parallel, and series-parallel, up to 47 different values are provided by a single unit. Twin Handy-Pak set which covers 0.5 to 15,000-ohm values sells for $1.20, whereas the pair providing values from 3000 to 50,000 ohms sells for $1.80. Made by **International Resistance Co.**, 401 N. Broad St., Philadelphia 8, Pa.

▲ For more details circle NED-13 E9 on enclosed inquiry slip ▲

UNUSUAL BARGAINS

Check, Measure, Inspect with this 6 POWER POCKET COMPARATOR

(Complete with Leather Case)

MEASURES • Angles • Radii • Circles • Linear—in both decimal inches and millimeters.
Used to check layouts, machining on tools, dies, gauges; to check threads, chamfers, wear on cutting tools, etc.

Stock No. 30,061-AE...New Low Price...$19.50 Pstpd.
Send Check or M.O.—or order on open account.

HANDY! FAST! ACCURATE!

STEREO-MICROSCOPE Terrific Buy! American Made!

Other American made Stereos cost $250.00 to $600.00 and more! Now—save well over 50%! **Up to 3" Working Distance—Wide 3 Dimensional Field**—Used in production, in research, or at home; for inspections, examinations, counting, checking, assembling. 2 sets of objectives on rotating turret. Standard pair of wide field 10X Kellner Eyepieces give you 23 power and 40 power clear, sharp, erect image. Helical rack and pinion focusing. Interpupillary distance adjustable. SO GOOD, WE'LL SHIP ON 10-DAY FREE TRIAL. **Stock No. 85,056-AE—full price, $99.50 f.o.b. Barrington, N. J. Low Power Supplementary Lens Attachment for above Stereo—provides 15X down to 6X with clear, extra large 1½" field at 6X. Stock #30,276-AE $7.50**
Order by Stock No. Send Check or M.O.—or order on open account.

GIANT MAGNETS! TERRIFIC BARGAINS!

War surplus—Alnico V-type! Horseshoe shape. Tremendous lifting power. 5 lb. size. Dimensions: A—3¼"; B—2¾"; C—4-3/16"; D—1¼"; E—1¼"; F—2⅝". Strength is about 2,000 Gauss. Will lift over 125 lbs.

Stock No. 70,183-AE ..... $8.50 ppd.

15¾ lb size magnet. Approximately 5,000-6,000 Gauss rating. Will lift over 250 lbs.

Stock No. 85,088-AE ..... $22.50 F.O.B. Barrington, N. J.

Shipping weight 22 lbs.

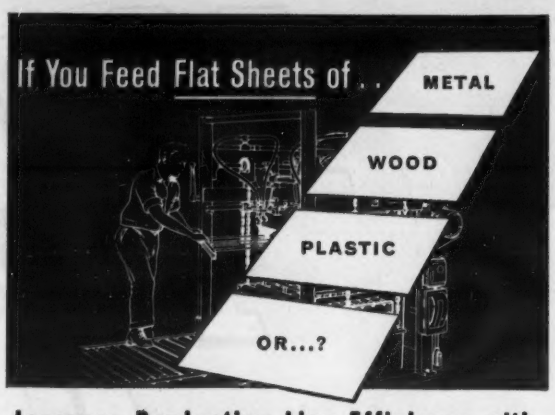
Order by Stock No.—Check, M.O. or Open Account—Money-back Guarantee

FREE! Giant CATALOG of OPTICAL BUYS!

OVER 1,000 OPTICAL ITEMS . . . Many on-the-job helps . . . quality control aids! 100 pages—hundreds of illustrations. Many war surplus bargains! Imported instruments! Lenses, Prisms, Magnifiers, Telescopes, Satellite Scopes, Microscopes, Binoculars, etc. Optics for industry, research labs, experimenters, hobbyists. No obligation. Write for FREE Catalog AE

EDMUND SCIENTIFIC CO., Barrington, N. J.

▲ For more details circle NED-14 E9 on enclosed inquiry slip ▲

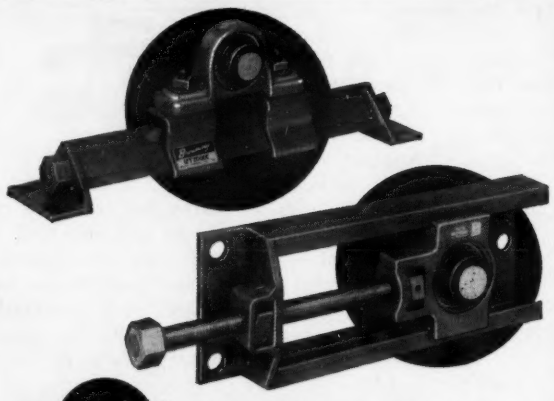


Increase Production Line Efficiency with DEXTER AUTOMATIC FLAT SHEET FEEDERS

No matter what the application there's probably a Dexter Automatic Sheet Feeder to make your sheet handling more efficient. Dexter Feeders are built in over a hundred sizes, load capacities, and speeds...to handle all types of materials ...metal, plastic, wood, glass, masonite, etc. Investigate how Dexter Automatic Sheet Feeders may improve your production efficiency. We'll be pleased to discuss your operation at no obligation, of course.

THE DEXTER COMPANY
DIVISION OF MIEHLE-GOSS-DEXTER, INC.
CHICAGO 8, ILLINOIS

▲ For more details circle NED-15 E9 on enclosed inquiry slip ▲



Browning BEARING UNITS are rugged, compact, light

In Browning pillow blocks, flange blocks and take-up units are combined all the advantages of modern anti-friction bearings . . . plus Browning's exclusive *unbreakable malleable* housings, far stronger than ordinary castings. Power transmission experts find these units unusually rugged and dependable, specifying them whenever the application demands 1) greater strength, 2) less space, 3) less weight, 4) trouble-free service, 5) longer life. Investigate now! Write for free descriptive catalog BU-101.

Browning Manufacturing Company, Maysville, Kentucky

Browning POWER TRANSMISSION EQUIPMENT

▲ For more details circle NED-16 E9 on enclosed inquiry slip ▲

SAFE . . . STRONG . . . ECONOMICAL

Penco SAF-T-GRIP nylon webbing slings in safety yellow

SAF-T-GRIP OFFERS YOU:
gripping power
easy handling
automatic visual inspection
flexibility
fast drying

SAF-T-GRIP RESISTS:
abrasion
heat
fungus
moisture absorption
mild chemicals

Available in endless, double eye and reverse eye types.

WRITE FOR DETAILED INFORMATION . . . DEPT. NED

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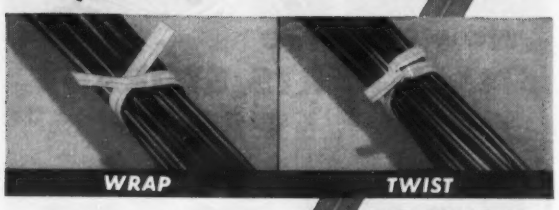
▲ For more details circle NED-17 E9 on enclosed inquiry slip ▲

Speed Tying Operations!



★ Cheaper than String
★ Faster than Tying
★ Sure Grip
★ Colorful

NO KNOTS TO TIE!

Cut your tying time in half! Hanscom-Ties are the fast, sure way to bundle wires, cords, coils, etc. Nothing to tie. Just wrap 'em around and twist. For temporary or semi-permanent holding. Available in cut lengths 1" to 24" and on spools — bright colors or printed. Prices from 26c per thousand. WRITE FOR SAMPLES and TRY 'EM YOURSELF.

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Providence 5, R.I., U.S.A.

Top view of Hanscom-Tie is shown. Bottom is flat

Hanscom-Ties®

▲ For more details circle NED-18 E9 on enclosed inquiry slip ▲

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SHEARS BILLETT AND BAR

◆ ● —

20 MODELS

INCLUDING FULLY AUTOMATICS

from $2,030, F.O.B. Buffalo

STEELMASTER billett and bar shearing machines are the result of thirty years world-wide experience in actual operations. Quick-change blades, automatic shearing action, patent rake for precision cuts and weight control to 1½ grams are a few of STEELMASTER features. Handles 13/16" to 8⅝" rounds. 30 day delivery on any of 20 production models, others on special order.

PATHEX Ltd. 1103 Liberty Bank Building Buffalo 2, N. Y.
Phone MAdison 7033. Telegraph PATEXCO, Buffalo

▲ For more details circle NED-19 E9 on enclosed inquiry slip ▲

"VERSATILITY"

The COMPLETE LINE of

RBC® BEARINGS

Products of modern engineering technology to meet manufacturers' rapidly changing demands.

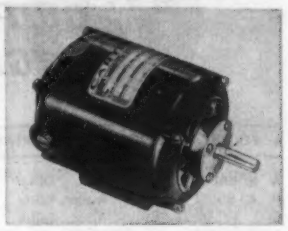
- PITCHLIGN Roller Bearings . . . demanded by industry for their proven superiority over ordinary Full Complement Roller Bearings.
- Self-Aligning Bushing Assemblies (Heavy Duty) . . . respected for their rugged dependability under the most demanding misalignment conditions.
- Miniature Roller Bearings . . . designed for today's precision electronic and rocketry applications.

For engineering data on the RBC Bearing line, write for catalog.

RBC ROLLER BEARING COMPANY OF AMERICA
Sullivan Way • West Trenton, N. J.

▲ For more details circle NED-20 E9 on enclosed inquiry slip ▲

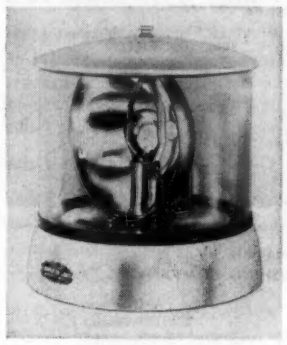
FRACTIONAL-HP MOTOR
8 models from 1/10 to 1/35 hp



Large brushes and precision ball bearings with sealed-in lubrication are featured by Classic fractional horsepower motors available as universal, shunt, or series types with from 12 to 220 v input. Made in eight standard models, motors operate at 3600, 5000, 7500, or 10,000 rpm and are offered in 1/10, 1/12, 1/15, 1/18, 1/20, 1/25, and 1/35-hp ratings. Units weigh about 3¾ lb. Made by **Carter Motor Co.**, 2746A W. George St., Chicago 18, Ill.

▲ For more details circle NED-21 E9 on enclosed inquiry slip ▲

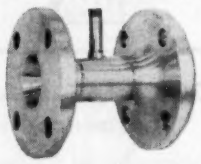
REVOLVING BEACON LIGHT
usable around plants, on vehicles



A brilliant rotating beam is cast by this RAR beacon light which uses a 50-cp light mounted in a 6-in. parabolic reflector. The glass lens is cushion-mounted in a corrosion-proof aluminum housing. The bulb remains stationary while the reflector turns at 70 to 80 rpm. This speed permits use of full power without danger of blinding. It is offered with red, blue, amber, or mixed lenses for operation on 6, 12, 28, and 32 v dc and on 115 v ac. Made by **Carpenter Mfg. Co.**, 936 Bradley St., Somerville 43, Mass.

▲ For more details circle NED-22 E9 on enclosed inquiry slip ▲

FLOW METERS
capacities from 0.1 to 40,000 gpm



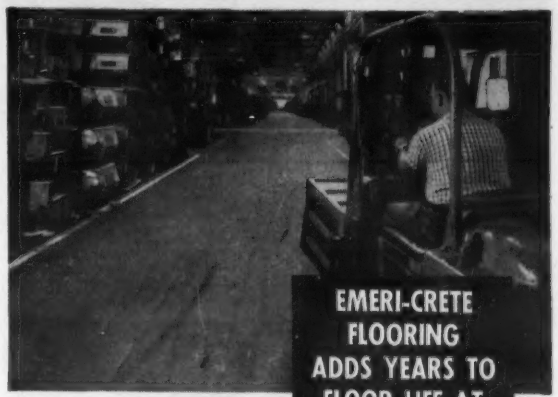
Liquid metering at operating pressures limited only by the process system is provided by this high pressure electronic, turbine type system. Flow meter capacities from 0.1 to over 40,000 gpm, and a temperature range from −445 to 1500° F provide broad application potential. System utilizes a pipe-mounted, straight-through metering device known as the Pottermeter which contains an electric current-generating, turbine drive rotor. Electrical output is proportional to the rate of flow, and accuracy is sustained at any velocity. Standard construction is stainless steel; other alloys for any desired pipe connection are available. Pottermeter readout equipment operates on any automation controls. Made by **Bowser, Inc.**, Pottermeter-Bowser Div., 1302 E. Creighton Ave., Fort Wayne 2, Ind.

▲ For more details circle NED-23 E9 on enclosed inquiry slip ▲

WITH A STANDARD LINE OF DUFF-NORTON WORM GEAR JACKS

The economies of standardized production can be realized by use of Duff-Norton Worm Gear Jacks for accurate positioning of loads weighing as much as several hundred tons. This standard line of eight jacks ranges from 2 to 100 tons in capacity which will meet almost any requirements. When jacks are used in an arrangement, added economy can be realized in raising unevenly distributed loads, since all models now have a uniform raise which permits jacks of varying capacities to operate in unison. Worm gear jacks are furnished with standard raises from 6 to 24 inches. Special raises can also be furnished. Write for Bulletin AD-66-N. **Duff-Norton Company, P. O. Box 1889, Pittsburgh 30, Pa.**

▲ For more details circle NED-24 E9 on enclosed inquiry slip ▲



In 1943, the White Motor Company of Cleveland replaced their previous flooring with Emeri-Crete Flooring made with Cortland Emery Aggregate. That same flooring is still in service. And White hasn't spent one cent on repairs or maintenance.

Emeri-Crete Flooring, made with Cortland Emery Aggregate, can serve as well in your plant, too. For details write for Bulletin 653.

EMERI-CRETE FLOORING ® 3127

WALTER MAGUIRE COMPANY, INC.
"America's Leading Industrial Flooring Specialists"
60 East 42nd St. • New York 17, N. Y.

Emeri-Crete Flooring • Emeri-Topcrete • Emeri-Bond • Emeri-Brick
Emeri-Crete Kure • Emeri-Quikpatch • Emeri-Grout

▲ For more details circle NED-25 E9 on enclosed inquiry slip ▲

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on Materials Handling

Low cost material handling. Move loads with ease! Many new features. Extra Safe! Write today for

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It is full of information on how to use Thern products for low cost material handling.

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THERN MACHINE COMPANY
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▲ For more details circle NED-26 E9 on enclosed inquiry slip ▲

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IDEAL

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ELECTRIC ETCHERS

As easy to use as a pencil . . . Burns a smooth, permanent mark into metal. Dozens of marking uses in every plant. Cheaper, more reliable than tags or special plates. Pays for itself! Safe . . . portable . . . ready to use! The "Universal" has 4 etching heats from 120 to 700 watts. Other models for all types of work.

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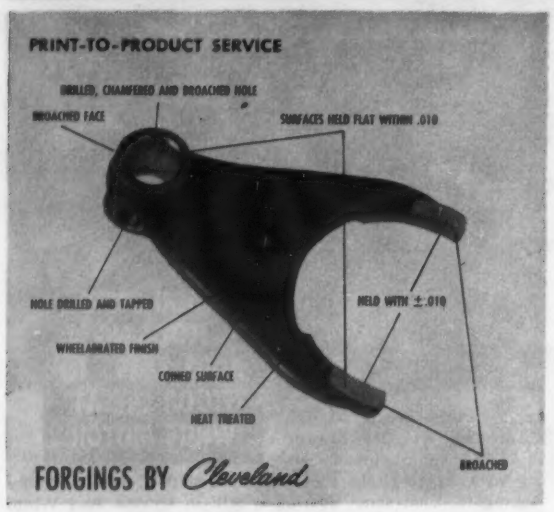
CANADIAN DISTRIBUTOR: Irving Smith, Ltd., Montreal

▲ For more details circle NED-27 E9 on enclosed inquiry slip ▲



How many of these steps does your product need?

If you can use skills and close tolerances like these, write for information to *Forge & Fittings Division, H. K. Porter Company, Inc., Cleveland 4, Ohio.*

FROM A SINGLE SOURCE:
FORGINGS . . . Hammer, Press, Upset
MACHINING . . . Broaching, Milling, Turning, Drilling, Grinding
FINISHING . . . Heat Treating, Assembling, Painting, Plating

FORGE & FITTINGS DIVISION PORTER H.K. PORTER COMPANY, INC.

PORTER SERVES INDUSTRY with 12 DIVISIONS including: Thermoid, Delta-Star Electric, National Electric, Riverside-Alloy Metal, Refractories, Connors Steel, Vulcan-Kidd Steel, Forge and Fittings, Disston, Leschen Wire Rope, Mouldings and H. K. Porter Company (Canada) Ltd.

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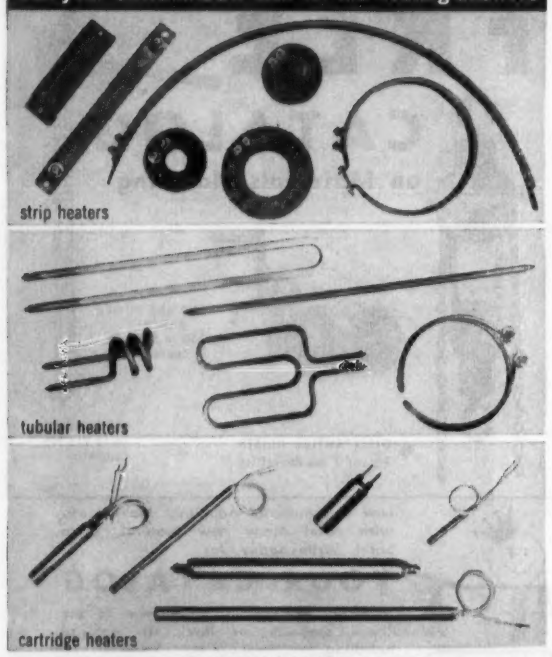
Call your CHROMALOX Man for the heating answers



These 3 basic CHROMALOX heaters provide answers to just about any heating problem

Strip Heaters . . . that quickly and easily bolt or clamp to metal surfaces.

Tubular Heaters . . . that clamp on, fit into machined grooves, cast into metals, immerse in liquids, install in ovens and ducts.

Cartridge Heaters . . . that fit standard drilled holes.

These versatile Chromalox electric heaters come in sheath materials, sizes and wattages to match almost any application to 1100°F. Easy to install, they provide fast, clean, safe, economical heat for limitless applications.

Your Chromalox Man can help you determine the one that best answers your problem. Why not give him a call.

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CHROMALOX Electric Heat
INDUSTRIAL • COMMERCIAL • RESIDENTIAL
EDWIN L. WIEGAND COMPANY
7509 Thomas Boulevard • Pittsburgh 8, Pa.

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NEW EQUIPMENT DIGEST

A PENTON PUBLICATION • PENTON BUILDING, CLEVELAND 13, OHIO

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BPA NBP

24-CARAT PLATING GOLD produces hard, ductile plate

Mirror-bright 24-carat gold electroplate which is both hard and ductile is produced with Orosene 999, a 24-carat acid bright gold. Quality of hardness with ductility is accomplished by preferred orientation of the gold micro crystals and crystal lattice. In barrel plating, material reportedly affords greater throwing power and leveling than possible before. Control is simple, requiring only one addition agent. Offered by **Technic, Inc.**, Box 965, Providence 1, R. I.

▲ For more details circle **NED-30 E9** on enclosed inquiry slip ▲

Logan Universal Couplings permit hook-up at either end of sections. No need to turn end for end . . . all ends fit!

LOGAN WHEEL CONVEYORS are easier to use because they set up rapidly—take down and store conveniently. They're ideal for loading and unloading work—for use indoors or out. The live-acting, ball bearing wheels operate on a minimum of grade. Write for literature and prices.

LOGAN CO., 215 CABEL ST., LOUISVILLE 6, KY.

Logan Conveyors

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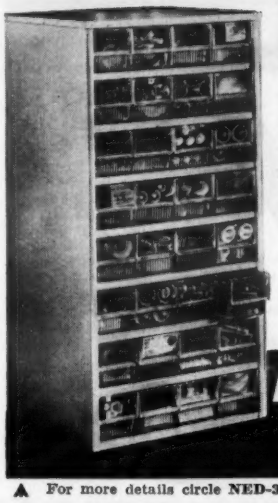
FREE CATALOG

"How to Solve SMALL PARTS STORAGE PROBLEMS"



Free 32-page illustrated catalog shows 750 different Cabinet Combinations . . . units from 4 to 128 drawers, 24 to 512 compartments, 11 different drawer sizes.

The neat, efficient way to store small parts in offices, shops, labs, etc. Ideal for handling and display.

Production line prices from $2.98

Ask for catalog AM-ED-5

AKRO-MILS, INC.
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Akron 9, Ohio

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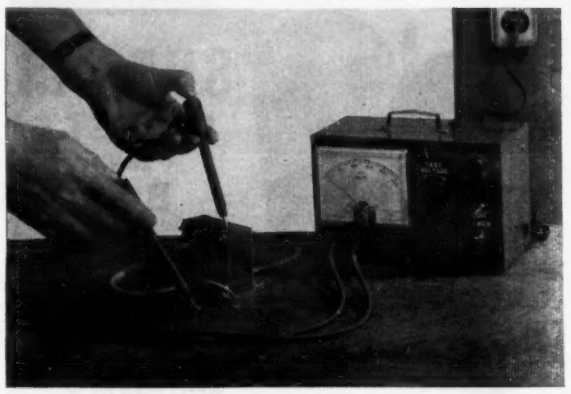
ADJUSTABLE HIGH-VOLTAGE TESTER

with buzzer signal on **BREAKDOWNS, GROUNDS, SHORTS**



Use this tester to apply a high voltage to your electrical products at various stages of manufacture to detect insulation weakness, grounds or shorts. It is better to catch defects early, instead of waiting for final testing—or, worse, have them crop up during use. The Slaughter high voltage tester is adjustable for testing voltage between 400 and 2500 volts a.c. Price, $116.00.

SLAUGHTER CO.
PIQUA, OHIO

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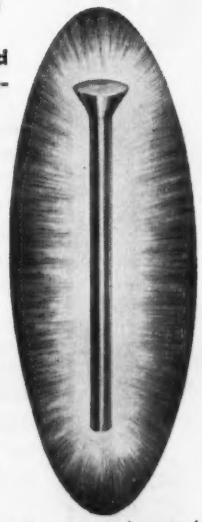
24 HOUR DELIVERY

of *Standardized* Punches... at 60% SAVINGS!

Standardized, centerless ground perforating punches that represent immediate savings!

Here's Why!



Accuracy — Centerless ground to within ±.0003 in diameter, with a bright finish!

Quality — A special, high-carbon steel insures tough, lasting durability!

Economy — Standardization means smooth, high speed turnout . . . at a fraction of the cost of making your own!

Delivery — Huge stocks of high carbon and H.S.S. punches, in many sizes, guarantee shipment the SAME DAY your order is received!

Most of the nation's leading companies have standardized on ROSS HIGH CARBON and HIGH SPEED STEEL PERFORATING PUNCHES . . . at terrific savings! Write now for FREE punch sample and descriptive literature.

Ross
ROSS EQUIPMENT CO., INC.
81 College Ave., Rochester 7, N.Y.

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PRECISION ANGULAR SET-UPS

MAGNA-LOCK SINE

Set up and go in *minutes!* No dials, scales, fixtures—just standard gauge blocks. Powerful electrical and permanent magnet models. Also inspection plates. Write Dept. NM59.

MAGNA-LOCK, INCORPORATED
BIG RAPIDS, MICHIGAN, U.S.A.

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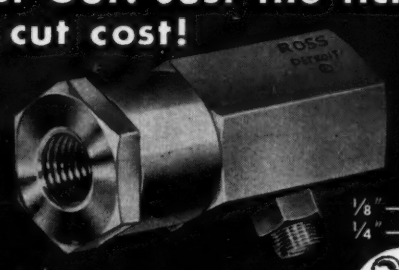
Just Out! Just the ticket to cut cost!



⅛"—$3.00
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ROSS "CUB"

NEW SPEED CONTROL VALVE

⅛" and ¼" pipe sizes in stock now!

Now a speed control valve that regulates your cylinder movement with precision and sureness, but which lists at $3.00 and $3.25. And despite its lower costs, "CUB" features the same high quality of design and workmanship you've come to expect from Ross. "CUB'S" design stresses trouble-free operation and easy maintenance. CUB is small, aluminum and lightweight. If you use speed controls, by all means call your Ross representative or write us.

ROSS OPERATING VALVE CO.
161 E. Golden Gate Ave. • Detroit 3, Michigan

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SINGLE REVOLUTION CLUTCH
has adjustable torque control—

For applications requiring up to 240 lb.-in. torque at speeds to 150 RPM.

CHECK THESE BENEFITS:

- LONG, TROUBLE-FREE LIFE
- EASE OF MAINTENANCE
- STRAIGHT-FORWARD BASIC CONSTRUCTION
- QUICK RESPONSE
- PROTECTS DELICATE MACHINE PARTS
- ECONOMICAL

The Wright Model "K" single revolution clutch has been thoroughly performance-tested in actual operation in customers' plants. Many benefits not usually associated with this type of clutch were found. We will be glad to tell you about them.

For Further Information WRITE TO:

THEODORE M. WRIGHT, INC.
BUILDERS OF SPECIAL MACHINES
P. O. BOX 286 CAMDEN 1, N. J.

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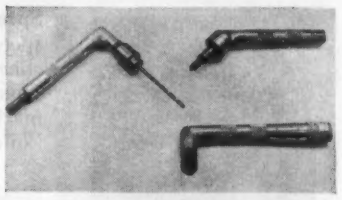
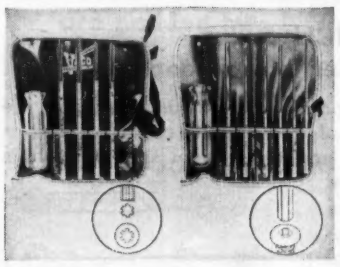
POWER TOOL ATTACHMENTS permit "around the corner" work



Drilling, burring, rotary filing, grinding, polishing, nut setting, and screw driving can be done at 45, 90, or inverted 45-degree angles with these angle attachments for power hand tools. Production and maintenance type units are suited for use up to 7000 rpm. Attachments have ball or needle bearings, integral gears, and heat treated alloy steel shafts. Small housings permit use through a 1⅝-in. hole. Made by **Monument Engineering Co.**, Drexler Div., 1625 Bellefontaine St., Indianapolis, Ind.

▲ For more details circle NED-38 E9 on enclosed inquiry slip ▲

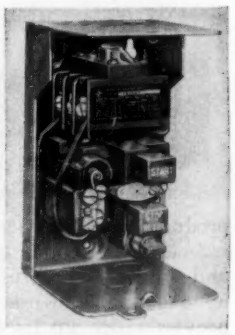
TOOL KITS for fluted spline and Allen screws



All popular sizes of fluted spline or Bristol type recess head screws can be accommodated by the No. ZF40 interchangeable blade tool kit. Kit consists of one 1 x 3⅝-in. Amberyl handle with clutch; four 6½-in. long blades which fit Bristol No. 5, 6, 8, and 10-12 screw sizes; and a plastic roll case. Allex hex driver Kit ZA-70 consists of one 1 x 3⅝-in. Amberyl handle; 1/16, 5/64, 3/32, ⅛, 5/32, and 3/16 x 4¾-in. hex bits; and a seven-section plastic tool roll. Made by **Vaco Products Co.**, 317 E. Ontario St., Chicago 11, Ill.

▲ For more details circle NED-39 E9 on enclosed inquiry slip ▲

MANUAL STARTER rated through 7½ hp, 440-550 v ac



Two moving parts replace complex mechanical linkage in the pushbutton mechanism of this manual starter rated through 7½ hp, 440-550 v ac and 2 hp, 230 v dc. Direct acting mechanical thermal overload operates independently of the second overload or pushbutton mechanism. Thus, operator cannot hold the circuit closed against overload. Jog-run accessory allows contact "make" only while start button is depressed. Second thermal overload unit can be added to single-phase starters in the field. Made by **Furnas Electric Co.**, 1009 McKee St., Batavia, Ill.

▲ For more details circle NED-40 E9 on enclosed inquiry slip ▲

Aftercooler and Cyclone Separator designed for cleaner, dryer compressed air

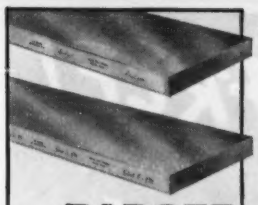
The Adams Aftercooler and Cyclone Separator are designed to efficiently condense and remove water from compressed air and process gas. Condensed moisture and entrained dirt and oil are subsequently removed in a cyclone type separator. This unit is scientifically designed for maximum removal efficiency over a wide range of flow rates.

For normal use, units are available to cool gases to within 10° F of the temperature of the cooling water. Specially designed units are available to permit a 2° F approach to cooling water temperature, for application where low moisture content is critical.

Adams Aftercoolers and Separators are available from stock to handle 20 - 40,000 cfm with 10° cooling and 25 - 19,200 cfm where it is necessary to cool within 2°F of the cooling water. Special units can be supplied to suit an unlimited range of requirements. In all cases the maximum pressure loss at rated capacities is ½ psi.

This wide range of sizes enables the economical utilization of Adams Aftercoolers and Separators in virtually all industrial application. For further information on how R. P. Adams' units will solve your compressed air problems and save you money, write today for Bulletin 711. R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York. *Advt.*

▲ For more details circle NED-41 E9 on enclosed inquiry slip ▲



Your need demanded it!

OVERSIZE
Flat Ground Die Stock

BADGER (Oil Hardening O-1 Type)
OVERSIZE: .014" to .016" on ¼" thickness and above.
Std. Tolerances—1/64" thickness and under.

SELECT B FM (Air Hardening A-2 Type)
OVERSIZE: .010" to .012" on thickness

MADE BY LATROBE Metalmasters...

to cut your die costs!

Latrobe's OVERSIZE Flat Ground Die Stock permits die design and layout to nominal dimensions—with "extra thousandths" for grinding to nominal size after heat treatment.

Over 750 Sizes of Badger and 125 Sizes of Select B FM available through Latrobe Branch Offices & Distributors.

Send today for Bulletin P-8-9-243

LATROBE STEEL COMPANY
MAIN OFFICE and PLANT: LATROBE, PA.
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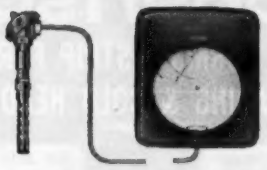
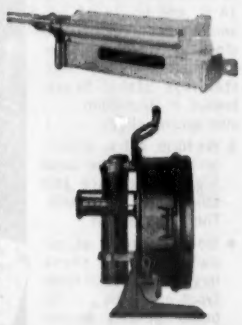
▲ For more details circle NED-42 E9 on enclosed inquiry slip ▲

WIDEST RANGE OF EQUIPMENT FOR
HUMIDITY RECORDING



No matter what problems you face in obtaining suitable humidity measurements and records, the unique versatility of Foxboro Humidity Instrumentation offers an appropriate solution . . . recorders, recording controllers, and indicators for relative humidity (hygroscopic type) and wet-and-dry bulb measurements, and, using the exclusive Dewcel element, direct reading dewpoint and absolute humidity measurements. Available in portable, close-coupled and long-distance types; with round or rectangular cases.

Get the complete story in Bulletins 11-11A and 11-14A. The Foxboro Company, 665 Neponset Avenue, Foxboro, Mass., U.S.A.



FOXBORO HUMIDITY INSTRUMENTS

▲ For more details circle NED-43 E9 on enclosed inquiry slip ▲

DRILLUNIT *Solves* Drilling Problems
Flexible-Dependable

Self contained —Compact,—can be mounted in any position or angle, in a small area.

Single or Multiple spindle applications, can be adapted for Drilling, Reaming, Chamfering, Boring, Counter Boring and Spot Facing.

Stroke and feed variations obtainable without changes in the unit.—Step feed drilling possible with slight modification.

9" and 12" stroke —up to 5 H.P.

Standard Models Available from Stock
Write for literature.

DRILLUNIT, INC.
HYDRAULIC DRILL UNITS
3267 Wight Street • Detroit 7, Michigan

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Drill Press Tooling
Adjustable short-run drill jig
Self-centering air vise
Combination tapping/deburring tool
Lathe Tooling
Ball-turning tool for concave and convex radii
Quick-change tool holders for turret work on standard lathes
Surface Grinder Tooling
Jaws for holding non-magnetic material on magnetic chucks
Milling Machine Tooling
Vise with automatically contouring jaws for any odd shape work
Inspection Tools
Thread Triangles for simplified measuring of pitch diameter

MONTGOMERY & CO. • 415 Morris Ave. • Springfield, N. J. • DRexel 6-4767

▲ For more details circle NED-47 E9 on enclosed inquiry slip ▲

CUT WIRE FORMS COSTS with Robertson
WIRE FORMS • STRIP FORMS
THREADING & COLD HEADING

We specialize in larger wire products from 2" long to some that require 12 to 14 ft. and up, to ¾" diameter wire, using any stock to suit the job requirement—carbon steel, stainless steel, brass, bronze or aluminum . . . also special alloys.

- We form, notch, broach, or flatten on the same high speed wire and strip form equipment. This reduces cost.
- We draw much of our own wire and stock large quantities of other types and sizes . . . for better delivery to our customers.

Our sixty years of experience in wire and strip products has helped hundreds of customers realize big savings in time and production costs—big gains in precision and uniformity on various sized components.

Send us a sketch, blue print or sample for a quote. You'll see what we mean.

Send today for Robertson's Free manual on how to specify and order Wire and Strip Forms - Cold Heading and Threading.

ROBERTSON STEEL & IRON CO.
201 Commerce St., Cincinnati 2, Ohio Phone: PA 1-5130

▲ For more details circle NED-48 E9 on enclosed inquiry slip ▲

DUALUBE Mist Coolant Dispenser

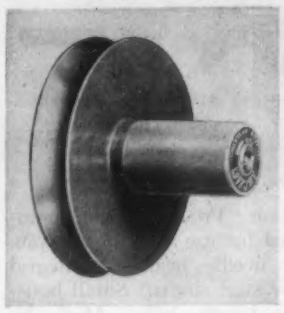
DUALUBE is a fully self-contained, compact coolant system that eliminates brush-on and flood cooling.

At last- a Mist Coolant Dispenser that is easily portable to any milling, sawing or drilling machine in the shop. Compressed air passes into a fine nozzle to provide a readily controllable fine mist of coolant oil and air. Dualube Mist Coolant permits higher machine speeds and faster rate of feed for better finishes and closer tolerances.
To assure prolonged tool life, and less down-time order your DUALUBE MIST COOLANT DISPENSER now. (Send for Brochure).

National Aircraft Corp., Union, N. J.

▲ For more details circle NED-49 E9 on enclosed inquiry slip ▲

VARIABLE SPEED PULLEY for ratios up to 3 to 1

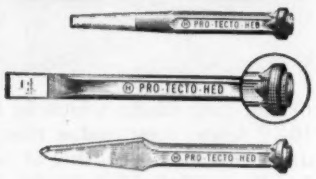


Speed of the 3050 variable speed pulley can be changed instantly with finger-tip pressure while machine is in motion. Pulley provides ratios up to 3 to 1 at 3⅓ hp, 1150 rpm, or at 5 hp, 1750 rpm. Both pulley faces, actuated independently by their own springs, move simultaneously to give constant belt alignment. Standard bores are 1, 1⅛, 1¼, or 1⅜ in. with 3½-in. bore length. Motor travel for full range is 4⅝ in. with 9.53 maximum and 3.17 in. minimum pitch diameters. Pulley measures 10 5/16 in. long by 10 in. OD. Made by **Lovejoy Flexible Coupling Co.**, 4891 W. Lake St., Chicago 44, Ill.

▲ For more details circle NED-50 E9 on enclosed inquiry slip ▲

CHISELS & PUNCHES feature raised upset heads

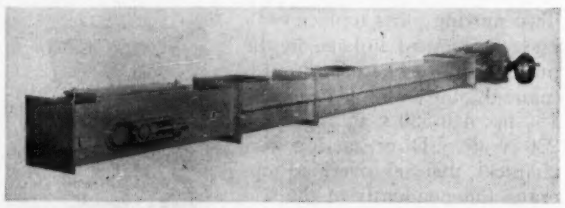
Tendency to mushroom or chip is minimized by the raised upset heads of these Pro-Tecto-Hed chisels and punches. Tools are forged from special analysis steel and are tested for hardness and toughness. They comply with all Federal specifications. Made by **Cincinnati Tool Co.**, 1995 Waverly Ave., Cincinnati 12, Ohio.



▲ For more details circle NED-51 E9 on enclosed inquiry slip ▲

CHAIN DRAG CONVEYOR for handling bulk materials

Various types of dry bulk materials are handled continuously with this self-cleaning chain drag conveyor. Drag blades mounted on a hardened roller chain move



products over a smooth steel slide. It provides for self-cleaning action, even when using multiple inlets and discharges. Sizes of 10 and 16 in. can be made up of sections to practically any desired length. Capacities range up to 47 tons per hr continuously and 94 tons per hr intermittently, based on materials weighing 30 lb per cu ft. Made by **Sprout, Waldron & Co.**, 130 Logan St., Muncy, Pa.

▲ For more details circle NED-52 E9 on enclosed inquiry slip ▲

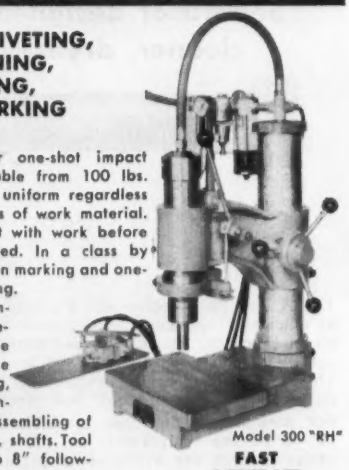
HEIDRICH-NOURSE PNEUMATIC IMPACT PRESSES

FOR STAKING, RIVETING, UPSETTING, PEENING, FORCE-ASSEMBLING, IMPRESSION MARKING

Two Series:

"VS" single acting or one-shot impact presses. Impact adjustable from 100 lbs. to 20,000 and remains uniform regardless of variation of thickness of work material. Tool must be in contact with work before hammer can be actuated. In a class by themselves for impression marking and one-shot staking and riveting.

"RH" repeating hammer presses, for uses requiring movement of the work material under the tool: riveting, staking, coining, peening, planishing, inserting or force-assembling of bearings, wheels, gears, shafts. Tool follows the work (up to 8" follow-through). Adjustable depth stop for control of work progress. Capacity from gentle nudging to riveting ⅝" diameter in mild steel.



Model 300 "RH"

FAST ACCURATE SAFE EASY TO SET UP LOW MAINTENANCE

DO IT BETTER—DO IT FOR LESS—WITH A HEIDRICH-NOURSE IMPACT PRESS

Standard equipment in aircraft, missiles and other precision manufacturing. List of big-name users reads like a "Who's Who" of American Industry.

Write, phone or wire for full information.

HEIDRICH-NOURSE COMPANY
635 E. 3rd Street, Los Angeles 13, Calif. • MAdison 8-2873

▲ For more details circle NED-53 E9 on enclosed inquiry slip ▲

FREE TRIAL OFFER

A NEW WAY to clean working hands

There has never been such a combination of plus features to keep workers' hands healthy — and therefore on the job day after day!

It's a brand new scientific formulation — non-depleting Lan-O-Kleen PLUS.®

It's WEST'S famous Lan-O-Kleen handcleaner . . . plus a softer scrubbing action . . . plus a gentler sudsing action . . . plus a soothing lanolin action!

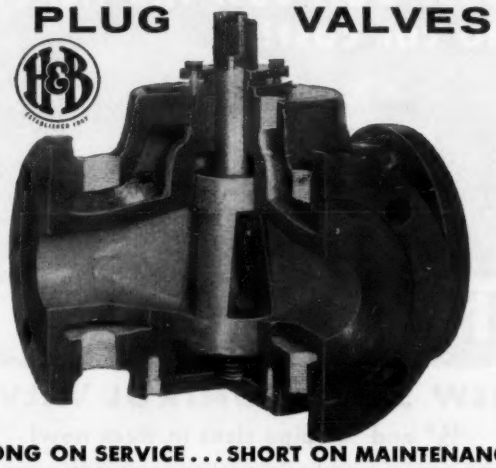
All of which combine to combat the depletion of natural skin oils while hands are being washed clean.

Highly important is the exclusive process that keeps the rich lanolin content of Lan-O-Kleen PLUS "free" to soothe and soften. Lanolin is impregnated into a corn meal base instead of being "held" in the soap by conventional methods. In this way, it is instantly released for more positive, beneficial action.

FREE TRIAL OFFER. We'd be glad to send five pounds of Lan-O-Kleen PLUS and loan a dispenser for free trial. Or we'll send a smaller sample for evaluation. Just use the reader service of this magazine. Or write West Chemical Products Inc., 42-16 West Street, Long Island City 1, N. Y.

▲ For more details circle NED-54 E9 on enclosed inquiry slip ▲

Jacketed Spring Loaded PLUG VALVES



LONG ON SERVICE . . . SHORT ON MAINTENANCE

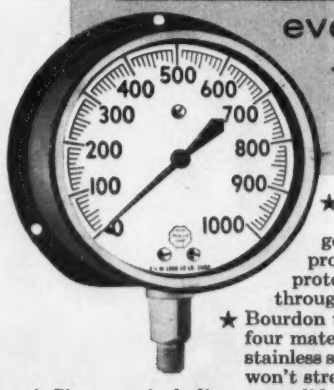
H & B's new fully jacketed spring loaded plug valves feature an inverted tapered plug inserted and lapped into the housing from the bottom of the valve—then spring loaded. The spring wedges the plug to a perfectly tight seal, eliminating troublesome leaks. Easy to operate—no big handwheel . . . no freeze . . . no "breaking loose" necessary. Easy to clean. Made in two port or multi port design, with any special stop arrangement desired.

Available in 2-way or straight, 3-way or angle, also air cylinder operated—all sizes and types. Bulletin J-57 sent on request.

HETHERINGTON & BERNER INC.
745 KENTUCKY AVE. INDIANAPOLIS 7, IND.

▲ For more details circle NED-55 E9 on enclosed inquiry slip ▲

Helicoid Gages give *Sustained Accuracy*, even on the toughest jobs



★ Exclusive Helicoid movement has no gears, no teeth. Shock-proof construction protects accuracy through millions of cycles.
★ Bourdon tubes available in four materials—bronze, steel, stainless steel, and K Monel—won't stretch, crack, or leak.
★ Six cases, including new solid-front safety case, meet every mounting requirement.
★ External pointer adjustment can't be jarred out of position.
★ A complete selection of gages and accessories for hydraulic, chemical, and other service.

Write for Catalog G-52.

HELICOID GAGES ACCO
Helicoid Gage Division
American Chain & Cable Company, Inc.
929-J Connecticut Avenue • Bridgeport 2, Conn.

▲ For more details circle NED-56 E9 on enclosed inquiry slip ▲

Here's Reliable Power

WAGNER INDOOR DRY-TYPE DISTRIBUTION TRANSFORMERS

These new quiet-type transformers are compact, light in weight, provide a flexible, modern power system to change higher-voltage distribution service to lower-voltage lighting and power circuits... meet all indoor installation safety requirements. Ask for Bulletin TU-221.

WT59-10

Wagner Electric Corporation
SERVING INDUSTRY SINCE 1891

6435 PLYMOUTH AVENUE
ST. LOUIS 14, MO.

MOTORS • BEARINGS • STANDARD ROTORS
BRUSHES • CAPACITORS • COMMUTATORS

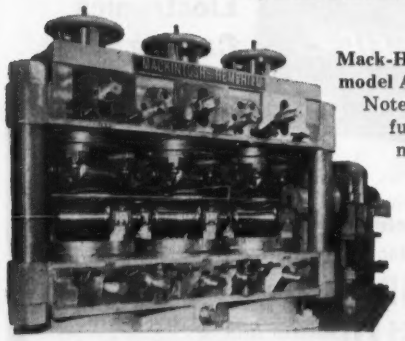
▲ For more details circle NED-57 E9 on enclosed inquiry slip ▲

Is your tubing ALMOST straight?

Why settle for almost straight, almost round pipe and tube when a Mack-Hemp Straightener gives you premium straightness and roundness every time in a single pass.

Mack-Hemp's open three-post rotary tube straightener is the most effective machine ever developed for finishing pipe and tube. It's rugged, yet easy to adjust . . . to maintain. It's easy to set the rolls, and easy to reset them for different tube diameters.

More important: It's versatile . . . fits into any tube or pipe mill production line. It's fast . . . all six rolls are driven for speeds up to 1,000 fpm and more. It's guideless . . . won't mar tubing surfaces. And there are thirteen models . . . for tube diameters ranging all the way from 1/16 inch to 16 inches.



Mack-Hemp three-post model AX straightener. Note how this clean functional design makes it easy to see and get at the rolls for adjustment and locking.

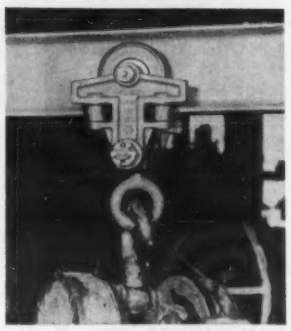
Learn more about the Mack-Hemp Straightener. Write for a free copy of our 24-page illustrated technical bulletin, "How to Straighten Pipe and Tube."

MACKINTOSH-HEMPHILL DIVISION PITTSBURGH U.S.A. BLISS

MACKINTOSH-HEMPHILL
Division of
E. W. BLISS COMPANY
901 Bingham Street • Pittsburgh 3, Pa.

▲ For more details circle NED-58 E9 on enclosed inquiry slip ▲

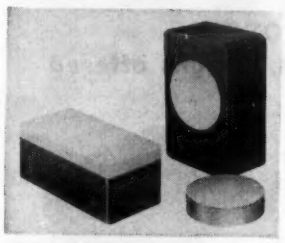
TWO-WHEEL TROLLEY carries 500-lb load on monorails



This two-wheel hoist trolley will carry 500-lb loads on curved or straight 4-in. I-beam monorails. Capacity can be doubled to 1000 lb by using two trolleys with a load bar between. Guide rollers keep loads centered on the monorail. Each trolley wheel has standard grease fitting for easy pressure lubrication. Turn radii as small as 12 in. can be negotiated with little added pushing friction. Trolley weighs 10 lb. Made by **Anchor Steel & Conveyor Co.**, 6906 Kingsley Ave., Dearborn, Mich.

▲ For more details circle NED-59 E9 on enclosed inquiry slip ▲

DISC-TYPE AISLE MARKERS are bonded into bored hole



Permanent aisle marking in wood block, tile, concrete, and asphalt floors is made possible with glass fiber disc-type markers available in yellow, orange, white, and red colors. Discs are installed in prebored holes and bonded into place. They fit flush with floor and withstand heavy plant traffic. Markers have $2\frac{7}{8}$-in. diameters and are offered in $\frac{1}{2}$ and $\frac{3}{4}$-in. thicknesses. Drill bits for installing markers are available. Also offered are creosoted wood floor blocks capped with $\frac{5}{8}$-in. layer of colored fiberglas, or with disc insets. Made by **Hayden-Shaw Mineral Products**, 7814 W. Jefferson Ave., Detroit 17, Mich.

▲ For more details circle NED-60 E9 on enclosed inquiry slip ▲

STACKING TOTE BOXES made of rigid corrugated board

Low cost, lightweight hopperfront tote boxes are fabricated of Chem-Board, a heavy, chemically rigidized, corrugated board. The self-stacking units build upon themselves without shelving. Inside dimensions of boxes shown are 19 in. wide, 28 in. long, and $13\frac{1}{2}$ in. deep when stacked. Price in quantities of 100 is about $3.85 each. Made by **Convoy, Inc.**, 3459 Navarre Rd., Canton 6, Ohio.

▲ For more details circle NED-61 E9 on enclosed inquiry slip ▲

EXPLOSION PROOF BRAKE

SBX-366 Brake, 6" Wheel, 80 Ft-lbs.

SBX-300 LINE EXPLOSION PROOF
Capacities: 10 ft-lbs. to 24,000 ft-lbs.

SB-300 LINE PLAIN SOLENOID BRAKES
Capacities: 3 ft-lbs. to 24,000 ft-lbs. All brakes for alternating current, direct current (series or shunt); hydraulic and air operation. Drip proof, dust proof, water tight, magnetically set, spring set. ALSO: Solenoids for all requirements. ALSO: Recipromotors and Semotors.

Write for data and catalog. See SWEET'S Catalog.

TROMBETTA SOLENOID CORP.
329 NORTH MILWAUKEE STREET • MILWAUKEE 2, WISCONSIN

▲ For more details circle NED-62 E9 on enclosed inquiry slip ▲

NEW
TROUBLE-FREE STEAM CLEANER

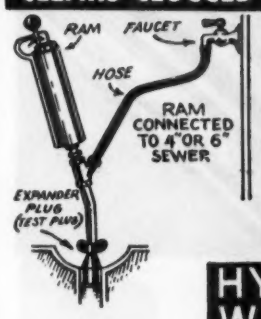
The Turbo Steam Cleaner is made for continuous rough service. It takes care of all cleaning, degreasing, paint-stripping and phosphatizing jobs faster, better and cheaper than any other steam cleaner. Quickly pays for itself: Low fuel consumption; detergent savings; low maintenance. Simple construction. Many automatic safety features. Nothing cleans like steam and no steam cleaner cleans like a Turbo. Oil-fired and electric models. Send for illustrated folder.

TURBO STEAM CLEANERS

TURBO MACHINE COMPANY, LANSDALE, PA.

▲ For more details circle NED-63 E9 on enclosed inquiry slip ▲

CLEARS CLOGGED DRAINS in Seconds!



The ideal plumbing service tool. Can pay for itself in one application!

Smashes through the most stubborn blockages, then flushes clean — all in one operation!

Comes equipped with self-contained manual compressor (can charge Ram to 100 lbs. in 30 seconds!) and drain adaptors in 6 sizes!

HYDRAULIC WATER RAM

Anyone can operate it! Thousands already in use, have saved *millions* of dollars in industry and institutions. Why lose time, suffer inconvenience, waste dollars needlessly on either completely blocked or slow-moving sewers, drains, fixtures? The HYDRAULIC WATER RAM clears severest stoppages with SPLIT-SECOND HYDROSTATIC IMPACT! . . . Shatters blockage, then flushes clean. No snakes, chemicals, cables. No pushing through. Works perfectly, *vent or no vent!* Nothing to wear out. You risk nothing on our 30 day free trial offer, at our expense. Write for details.

Works perfectly with all clogged fixtures, toilets, sinks, urinals, etc. Equipped with 4" rubber cone, ideal for toilets, plus set of 5 tapered adapter plugs for other drains or sewers.

Write for Information, Prices, Free Trial Offer — Today!

HYDRAULIC MANUFACTURING CO.
214 INDUSTRIAL HEIGHTS KIEL, WISCONSIN

▲ For more details circle NED-64 E9 on enclosed inquiry slip ▲

PRESTO! Your empty drums become safe sanitary inexpensive waste receptacles with . . .

CONVERT-A-DRUM Swing Top Lids. They contain all features of expensive waste receptacles at half the price, including two free-swinging doors, fire resistant heavy steel and rust-proof finish

#1711—Fits 55-gal. drums $14.25
#2011—Fits 30-gal. drums $11.25
#1511—Fits 15-gal. drums $ 7.25

NOW AVAILABLE! G-S economical **WASTE RECEPTACLE KIT,** containing Swing Top Lid, Easy-On Burlap Bag drum liner, can of Instant Dry Spray-On Enamel, to match drum finish with attractive lid.

Price per kit, with Model #1711 Convert-A-Drum Lid, $19.35
(Smaller sizes proportionately priced)

GENERAL SCIENTIFIC EQUIPMENT COMPANY
7518 Limekiln Pike, Phila. 50, Penna.
HAncock 4-1550

'Safety-Rated Equipment for Safety-Minded Industry'

▲ For more details circle NED-65 E9 on enclosed inquiry slip ▲

The miniature nose mask that is as handy as a pair of glasses. So light, less than 1 ounce. So convenient it can be worn while smoking, eating, talking. Amazing 9 sq. in. filter. Vest pocket size. Can be carried, ready for use instantly. Write for details! Send $1.20 today for sample!

H. S. COVER, Dept. 505
South Bend 14, Indiana
"Respirators for Industry since 1894"

▲ For more details circle NED-66 E9 on enclosed inquiry slip ▲

Johnson ALUMINUM BRONZE Bars

Johnson Bronze now offers aluminum bronze bars that provide many *cost-saving* advantages.

Compact grain structure and the unusual alloy in these bars result in high physical properties that greatly increase service life and cut down-time.

Solid aluminum bronze bars are supplied with extruded finish. Centrifugally cast tubular bars are semi-finish machined on the ID and OD. *Both* bars are supplied in standard 12½-inch lengths and in 97 sizes up to 8-inch OD. Johnson aluminum bronze bars are ideal for such applications as gears, worms, valve seats and guides, hydraulic valve parts, plungers and others. Call your Johnson distributor or write for literature.

Johnson Bronze, 580 Mill Street, New Castle, Pa.
Subsidiary: Apex Bronze Co., Oakland, Cal.

▲ For more details circle NED-67 E9 on enclosed inquiry slip ▲

RCA RADIO . . FIRST CHOICE OF THE LEADERS

Get latest facts about 2-Way Radio for Industrial use

Mail coupon for complete information on RCA Mobile and Personal Radio Equipment

RADIO CORPORATION OF AMERICA, Communications Products Dept. T-329, Building 15-1, Camden, N.J. In Canada: RCA VICTOR Company Limited, Montreal

Please send me complete information, as follows:
- ☐ RCA Personalfone transistorized receiver and transmitter (shown above)
- ☐ "Split Channel" Carfone Mobile equipment—all bands
- ☐ "Quiet Channel" to effectively cut out all channel interference
- ☐ Folder—"Sherwin-Williams Solves Tough Materials Handling Problems with RCA 2-Way Radio"

NAME _____ TITLE _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

RADIO CORPORATION of AMERICA
COMMUNICATIONS PRODUCTS • CAMDEN, N.J.

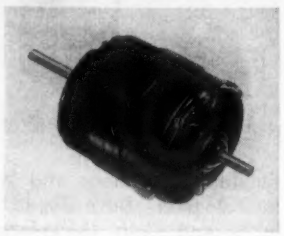
▲ For more details circle NED-68 E9 on enclosed inquiry slip ▲

DIELECTRIC TEST SET
in portable and bench models

Maximum output current of 5 ma at output voltage up to 2.5 kv is provided by these dielectric test sets. Bench model is suitable for making acceptance and proof tests on electrical insulating systems for quality control purposes. Portable set, housed in shock and wear-resistant case, is designed for severe field use in testing reconditioned equipment after installation, and in preventive maintenance of installed electrical equipment. Sets are completely guarded, including output cable, so that output current as low as 1 ma can be measured at maximum output voltage even in humid ambients. Made by **James G. Biddle Co.**, Dept. 22, 1316 Arch St., Philadelphia 7, Pa.

▲ For more details circle NED-69 E9 on enclosed inquiry slip ▲

FRACTIONAL HP MOTOR
various voltages, designs offered



Efficient ventilating system occupying a minimum of space is built in the M-60 fractional horsepower motor. It has a die cast frame and is available in any voltage from 6 to 220. Reversing and dynamic braking can be incorporated, and ball or sleeve bearings are optional. Rae line of gear units can be used with the motor, offered with any desired finish. Made by **Rae Motor Corp.**, 2005 Kewaunee St., Racine, Wis.

▲ For more details circle NED-70 E9 on enclosed inquiry slip ▲

SWING CHECK VALVE
bronze unit rated for 125 psi steam

Redesigned bronze swing check valves for industrial steam, water, oil, and gas service are suited for use where back-flow must be prevented. Generally used with a gate valve, it can be installed in either a horizontal or vertical position. Easy access is provided to the bronze disc for regrinding, without removal of valve from the line. Valves are made in ½, ¾, 1, 1¼, 1½, and 2-in. sizes and are rated for 125-psi saturated steam and 200 psi for oil, water, and gas. They are hydrostatically tested at 350 psi. Made by **American Chain & Cable Co.**, R-P&C Valve Div., Reading, Pa.

▲ For more details circle NED-71 E9 on enclosed inquiry slip ▲

HOW TO CUT COSTS with BELT CONVEYORS
new catalog 80 tells how...

GET YOUR COPY TODAY!

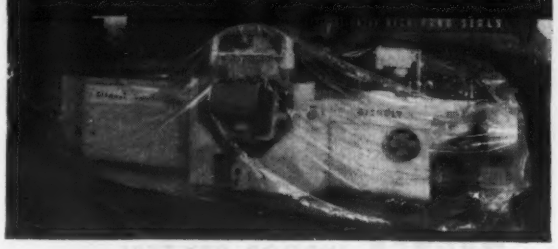
Learn how you can save valuable floor space...cut maintenance costs ...by using BUSCHMAN Light-to-Medium Belt Conveyor Stock Components arranged to your exact requirements. Write for "Catalog 80" today!

Every Way Better C-351-EWB
THE E. W. BUSCHMAN CO.
4482 Clifton Avenue Cincinnati 32, Ohio

E W B CONVEYORS FOR EVERY INDUSTRY

▲ For more details circle NED-72 E9 on enclosed inquiry slip ▲

WE SPECIALIZE IN COVERING HARD-TO-COVER PRODUCTS!



If you have a hard-to-protect product or hard-to-cover equipment, your best bet is to get in touch with the people at Canton Containers. Here you'll find people who have built a business on convenient, inexpensive polyethylene covers for odd-sized and unusually dimensioned items . . . covers that more than pay their way in protection. If you have a product or equipment that deserves protection from weather and dirt, get in touch with Canton Containers. If there's an economical, convenient way to do the job, they'll know about it!

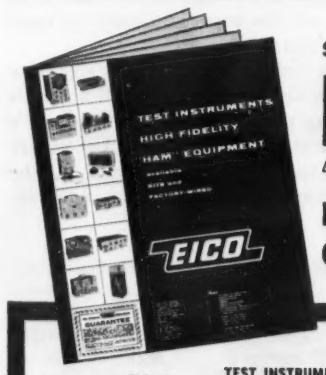
CANTON CONTAINERS, INC.
1101 9TH ST., S.E. • CANTON 7, OHIO

▲ For more details circle NED-73 E9 on enclosed inquiry slip ▲

GET THEM at any industrial distributor authorized to carry Palmetto Packings . . . For the name of a supply house near you consult our insert in Thomas Register—between pages 4816-4817.

GREENE, TWEED & CO.
North Wales • Pennsylvania

▲ For more details circle NED-74 E9 on enclosed inquiry slip ▲



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EXACTLY THE PANELBOARD YOU WANT... New 250 V.

QMB—Right off Your SQUARE D Distributor's Shelf!

PLUG-IN CONSTRUCTION
—handles just like plug-in duct

NEW 250 VOLT UNITS SMALLER
—more circuits in same space

HEAVY-DUTY
industrial design

OVER-THE-COUNTER DELIVERY
Pick up complete panelboards same day job develops

Write for the complete QMB Panelboard story!

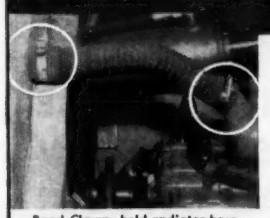
Square D Company, 6060 Rivard St., Detroit 11, Mich.

SQUARE D COMPANY

▲ For more details circle NED-76 E9 on enclosed inquiry slip ▲

MARMAN Universal Band Clamp

Connects Hose, Supports Components



Band Clamps hold radiator hose.

Universal Band Clamps adjust to any diameter, fit any shape, withstand sustained vibration. Made of corrosion-resistant stainless steel, they can be installed for permanent use or removed for re-use elsewhere. No tools are needed for installation. Four band lengths adapt to all diameters from ¼" to 16⅛".

Band Clamps adjust to any shape.

7110 Universal Band Clamp

MARMAN DIVISION Aeroquip Corporation

INDUSTRIAL SALES DEPARTMENT
11214 EXPOSITION BLVD., LOS ANGELES, CALIFORNIA
IN CANADA: AEROQUIP (CANADA) LTD., TORONTO 19, ONTARIO
Marman Products are Covered by U.S. and Foreign Patents and Other Patents Pending

▲ For more details circle NED-77 E9 on enclosed inquiry slip ▲

Amazing New Limit Switch

Operates Without Physical Contact

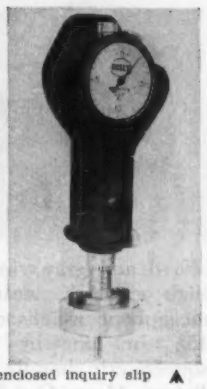
Write for PROXIMITY LIMIT SWITCH BULLETIN

Square D Company, 4041 N. Richards St., Milwaukee 12, Wis.

SQUARE D COMPANY

▲ For more details circle NED-78 E9 on enclosed inquiry slip ▲

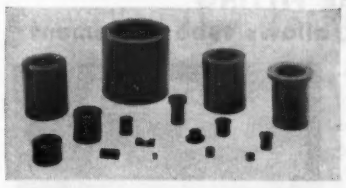
DEPTH MICROMETER
reset with masters supplied



Large, easy-to-read dial on the Besly Readepth accurately registers depth dimensions of holes, slots, keyways, etc. The depth-indicating micrometer is readily set to changed dimensions and is accurately reset with the masters which are supplied. Constant accuracy from 0 to 3 in. is assured as resetting is required only when the contact rods are changed. Micrometer is supplied in an oak case. Made by **Besly - Welles Corp.**, South Beloit, Ill.

▲ For more details circle NED-79 E9 on enclosed inquiry slip ▲

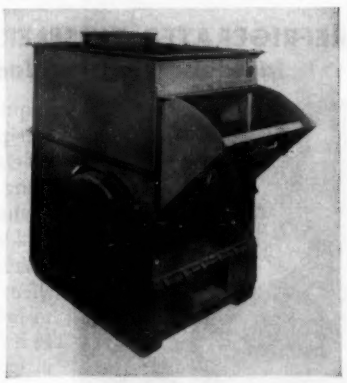
PLASTIC OILLESS BEARINGS
have −250 to 375° F ambient range



High over-all performance is provided by Arguto-MP oilless bearings which are made from an "alloy" of plastics. Bearings provide high load carrying capacity, low coefficient of friction, good heat dissipation, ambient range of −250 to 375° F, low thermal expansion, low water absorption, resistance to corrosion and abrasion, and excellent wear properties. The molded plastic will not cold flow or melt. Made by **Arguto Oilless Bearing Co.**, 143-153 W. Berkley St., Philadelphia 44, Pa.

▲ For more details circle NED-80 E9 on enclosed inquiry slip ▲

DRY WASTE INCINERATOR
has 75 lb per hr waste capacity



Heavily constructed Model C-7 portable incinerator designed for smaller industrial plants can be operated 8 hr a day at rated dry waste capacity of 75 lb per hr. Equipped with steel skids, incinerator can be moved through an average 36-in. doorway. Small refuse containers can easily be emptied through 24 x 20-in. hopper-type charging door. Breeching outlet can be mounted in any one of three locations. Steel cased unit is refractory lined at the factory. Knocked down units are also available. Made by **Plibrico Co.**, Incinerator Div., 1800 N. Kingsbury St., Chicago 14, Ill.

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H&K perforated materials

a perfect medium of

DESIGN

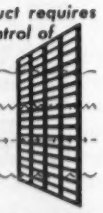
with functional and decorative uses

Harrington & King can perforate the proper design, pattern and open area in practically any metallic or non-metallic material available in coils, sheets or plates—from foil-thin to 1" thick. Specify H&K perforated materials on your next job—see what a difference over 75 years of experience can make!

FIND NEAREST H&K AGENT in the "Yellow Pages"

Listed Under "Perforated Metals"

Wherever a product requires the passage or control of



or just for their inherent aesthetic qualities, H&K perforated metals can serve you

Write for General Catalog No. 75, Today!

THE Harrington & King PERFORATING CO. INC.

Chicago Office and Warehouse 5658 Fillmore St., Chicago 44 • *New York Office and Warehouse* 114 Liberty St., Dept. NED, New York 6

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ONLY SQUARE D GIVES YOU ALL 5

1. QUICK INSTALLATION!
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Write for Bulletin SM 275 to Square D Company, 4041 North Richards Street, Milwaukee 12, Wisconsin

NOW... EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE

SQUARE D COMPANY

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HOW IT'S DONE: The mark is embossed onto, not stamped into, the chain.

CHAIN BUYERS & USERS—Now you can be sure of the make of chain you are getting and of the grade (strength) of the chain you are using...a definite safety advantage. Available on Inswell Proof Coil, BBB, High Test and the ½" and smaller sizes of Herc-Alloy chain.

SPECIFY "CM" CHAIN

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TONAWANDA, NEW YORK

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NEW! • LOW COST EC&M MAGNETIC CONTROL FOR DC CRANES

Better than Manual Control for So Many Reasons—

Now, on any DC application up to 55 HP, 230 volts, new "PT" crane control gives you the advantages of full magnetic control where manual control formerly was specified purely on the basis of price.

Write for Bulletin 6131.
The Electric Controller & Mfg. Co., Division of Square D Company, 4500 Lee Road, Cleveland 28, Ohio

"PT" Controller with front cover removed

THE ELECTRIC CONTROLLER & MFG. CO.
A DIVISION OF THE SQUARE D COMPANY
CLEVELAND 28 • OHIO

2725

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New GEMCO ROTATING CAM LIMIT SWITCH

PRECISION CAM ADJUSTMENT WITH A SCREW DRIVER . . .

IN SECONDS!

One type cam . . . no special cam lobes required.

Snap Action Switches, N. O. and N. C.—electrically separated

2 through 12 circuits. Available in NEMA 1, 4, 5, 7, 9 and 12 enclosures.

Please send Bulletin 558 for complete story of new Gemco Rotating Cam Limit Switches.

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CITY_____ ZONE_____ STATE_____

GEMCO ELECTRIC COMPANY
25685 West Eight Mile, Detroit 40, Mich.

For more details circle NED-86 E9 on enclosed inquiry slip

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You'll want to take a close look at this new Freeway Catalog, for it covers thousands of assemblies that can cut your anti-friction costs to just pennies per bearing. Design details, specifications, recommended speeds and load ratings have all been included, making it easy to select the semi-precision bearing that will meet your exact requirements.

Another point—Catalog 59 shows all five types of Freeway bearings, including the patented Split-Race series, to give a performance and application range unmatched by any other manufacturer. So . . .

Write for your copy today • Catalog 59 is yours for the asking.

Other famous Freeway products include small metal stampings . . . and a complete line of standard and special washers, in any metal, shape, size or quantity. Catalog on these items also available.

Freeway
WASHER & STAMPING COMPANY
P. O. Box 1756, Cleveland 5, Ohio

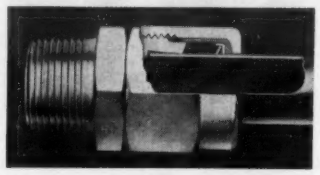
For more details circle NED-87 E9 on enclosed inquiry slip

TRANSISTORIZED MEGAPHONE
battery unit has ¼-mile range

Push - pull transistors employed in the Chief power megaphone provide it with clarity and carrying power. Its readily available battery is capable of sounding 6000 two-second messages over a ¼-mile range. Made of red and gray vinyl and polyethylene plastics with high abrasion, weather, and impact resistance, the megaphone weighs only 3¼ lb with battery. Size is 15¾ in. long by 9½ in. maximum diameter. A squeeze-grip handle allows one-hand use. Made by **Falcon Alarm Co.**, 243 Broad St., Summit, N. J.

For more details circle NED-88 E9 on enclosed inquiry slip

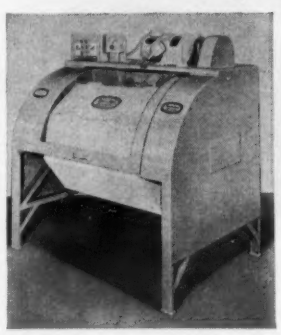
HYDRAULIC TUBE FITTING
is leakproof, allows tube movement



Leakproof tube connections in hydraulic and pneumatic systems can be made with the Rubbernek flareless fitting which allows tube movement and even slight tube misalignment. The assembled cushion unit is made up of a cushion, anchor, retainer, and seal. Fitting assures a positive seal at high, medium, or low pressures and can be reconnected repeatedly without wear or damage. It meets JIC standards. Built-in stop prevents over or under torquing and facilitates proper installation without special tools. Made by **Chicago Forging & Mfg. Co.**, 2000 N. Southport Ave., Chicago 14, Ill.

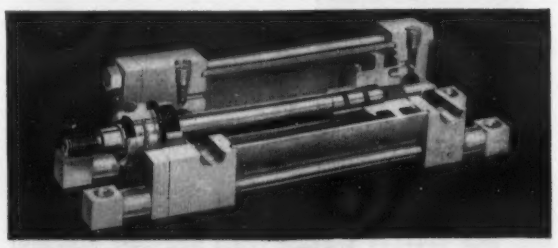
For more details circle NED-89 E9 on enclosed inquiry slip

REFRIGERATED TUMBLER
for deburring molded rubber parts



Liquid CO_2 is used as the refrigerant in this series of eight refrigerated tumbling machines for deflashing and finishing of molded rubber parts. Freezing of parts gives them a metallic hardness to facilitate the barrel finishing operation with proper abrasives. Cost is reportedly reduced up to 75 per cent over conventional methods. Capacities range from 3.7 to 30.7 cu ft, speed is variable from 10 to 30 rpm, and temperatures are controlled down to −100° F. Made by **King-Seeley Corp.**, Almco, Queen Products Div., Albert Lea, Minn.

For more details circle NED-90 E9 on enclosed inquiry slip



NEW! SCHRADER SQUARE-END CYLINDERS

meet and exceed **JIC** specs . . . . .
250 psi air . . . . . 750 psi hydraulic

New Schrader Square-End cylinders give you compact, versatile, straight-line power. Use these double-acting cylinders for holding, positioning, moving work. Use them to push, pull or lift. Use them to automate manual operations.

In five sizes up to 4-inch bore, with four interchangeable mountings. This new Cylinder series will mount five ways: bolt, leg, flush, side-flush and base. Available cushioned or non-cushioned.

Write for your FREE copy of new JIC Cylinder catalog insert. Complete stocks are now available locally, plus expert help with your air control hookups.

Schrader a division of SCOVILL
A. SCHRADER'S SON
Division of Scovill Manufacturing Co.
459 Vanderbilt Ave., Brooklyn 38, N. Y.
QUALITY AIR CONTROL PRODUCTS

For more details circle NED-91 E9 on enclosed inquiry slip

NEW Snap-on

I-BEAM HANDLING SOCKET

Roll steel I-beams quickly, safely . . . with this new, slotted *Snap-on* socket and long-handle ratchet wrench. Ratchet action of wrench prevents dangerous handle whip after beam or other object starts rolling over. Two sizes, ½-in. or ¾-in. milled slot.

Call nearest *Snap-on* branch or write us for further information.

SNAP-ON TOOLS CORPORATION
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COMPLETE FACILITIES
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- Stenciling
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Send for your free sample of a short run stamping that was produced for a WLS customer. We'll also send you our own latest catalog of parts produced for other customers with data of production costs that represented BIG savings!

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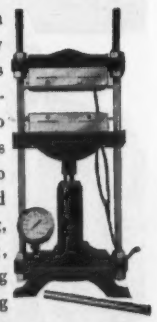
STAMPING COMPANY
Charter Member of Small Lot Stamping Institute
3287 E. 80th Street • Cleveland 4, Ohio

For more details circle NED-93 E9 on enclosed inquiry slip

WABASH builds the most complete line of HYDRAULIC LABORATORY PRESSES—3 to 50 Tons Capacity

Every model is ruggedly constructed for a long service life and has features found only on Wabash Presses. Surface ground platens are heated with temperature range of 90 to 600° F. Pressure is easy to apply, easy to release. Can be used for pressing, forming, crushing, extruding, filtering, extracting laminating, molding and other operations. An indispensible tool for research, inspection and testing. Larger models available motorized. Also specially engineered units for particular requirements.

50-TON PRESS. MODEL 50-15.



3-TON PRESS. MODEL 3-8.

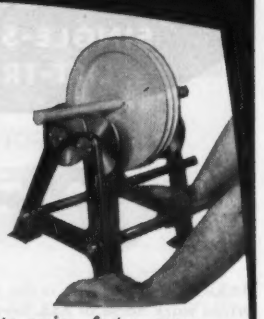
SEND FOR CATALOG

Wabash Metal Products Co.
1506 MORRIS ST., WABASH, INDIANA

For more details circle NED-94 E9 on enclosed inquiry slip

Balance Rotating Parts FASTER...EASIER

USE *Anderson* BALANCING WAYS



Static-balance rotating parts easier, faster, more accurately with *supersensitive* Anderson Balancing Ways. No setup, no leveling, no centering. Chilled iron discs, ground and balanced to extreme accuracy, rotate with minimum friction on special precision bearings. Glass-hard spindles and bearings prevent wear or ball-bearing indentations when balancing heavy work. Superior accuracy lasts throughout long life. Proved and preferred over 40 years.

Write for Bulletin No. 5-40
ANDERSON BROS. MFG. CO.
Rockford, Ill.

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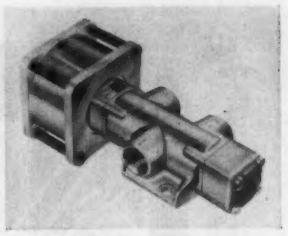
DIAPHRAGM VALVE acts as low pilot pressure actuator



Low pilot or signal pressures can operate this diaphragm valve when used as a directional control valve or actuator in instrumentation and automation applications. Double diaphragm type can be actuated by pilot pressures as low as 5 psi. Spring return model is operated by as low as 10 psi. Actuation by lower pressures is obtained by using a lighter than standard spring return. Sizes from 1/8 to 1 in. NPT in two, three, four, and five-way types are offered for pressures from partial vacuum to 500 psi. Made by **Versa Products Co.**, 249 Scholes St., Brooklyn 6, N. Y.

▲ For more details circle NED-98 E9 on enclosed inquiry slip ▲

Tight Sealing—the Fast Way

KEY® Graphite Paste, the tight sealing pipe joint compound, goes on easy, seals fast. It's ideal for oil, gas, and high pressure steam lines—safe for flammable liquids (officially listed by Underwriters' Laboratories). Expands under heat—lubricates and protects threads while it seals. Joints don't freeze—disconnecting always possible.

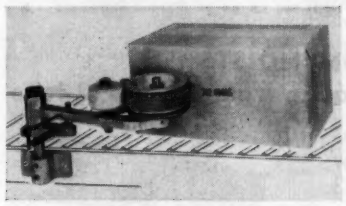
Key Graphite Paste is applied with a brush—no crumbling or waste. Extra long open-can life eliminates thinning and stirring.

Available in 1 lb., 2¾ lb., 10 lb., 60 lb., and 500 lb. drums. Write for Circular 240-B and free sample.

W-K-M DIVISION OF ACF INDUSTRIES INCORPORATED
Dept. Z-5, P.O. Box 2117, Houston, Tex.
KP-3603

▲ For more details circle NED-101 E9 on enclosed inquiry slip ▲

CONVEYOR LINE MARKER imprints changeable data on cartons



Improved Rocket self-inking conveyor line marker imprints codes, dates, trademarks and other changeable data on cartons, bags, rolls, cans, and drums. The friction-operated unit uses base-lock rubber type and attaches to the conveyor line or case sealer. Models with 1 and 2-in. printing heights are available. Units can be used singly or in multiples to mark both top and sides, or two sides simultaneously. Made by **Pryor Marking Products**, 434 S. Wabash Ave., Chicago 5, Ill.

▲ For more details circle NED-99 E9 on enclosed inquiry slip ▲

Measure TENSILE WEIGHT · TORQUE COMPRESSION *-anywhere!*

with a portable *Dillon* Dynamometer

- 13 CAPACITIES: 0-500, 0-1000, 0-2500, 0-3500, 0-5000, 0-10M, 0-15M, 0-20M, 0-30M, 0-40M, 0-50M and 0-100M pounds.
- Choice of dial sizes: 5" or 10" diameter.
- Equipped with attachment shackles and pins.
- Dial protected by shatter-proof crystal.
- Will withstand accidental overloads.
- Has max. pointer to register peak loads.
- Extremely compact. Requires little headroom.
- Lightweight yet rugged. Easy to handle.

YOURS FREE! Profusely illustrated catalog showing applications and prices. Write today!

W. C. Dillon & COMPANY, INC.
14578NE Keswick Street
Van Nuys 1, California

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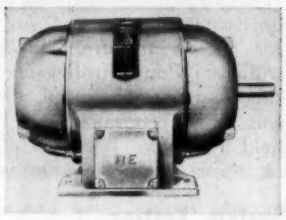
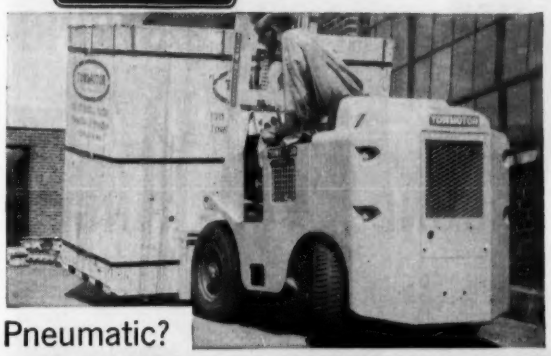
CRANE & HOIST MOTORS offer smooth starts of heavy loads



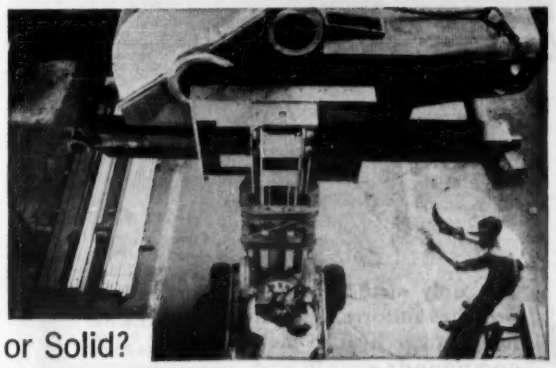
High slip and high torque characteristics of these motors suit them for bridge, trolley, and hoist drives. Capable of starting heavy loads safely and smoothly, they have special windings built into the squirrel cage, multi-speed, fluid shaft, and slip ring wound rotor motors. They can also be combined with Motoreducers and Reuland magnetic brakes. Varied mounting adaptations make use of flanges, rings, and feet. Crane-hoist motors are offered in ratings from 1/2 to 50 hp, frame sizes from 182 to 365U, dripproof or totally enclosed, and 15 or 30-min duty ratings. All have cast aluminum frames. Made by **Reuland Electric Co.**, Mission & Fremont, Alhambra, Calif.

▲ For more details circle NED-100 E9 on enclosed inquiry slip ▲

B.F.Goodrich



Pneumatic?



or Solid?

Your B.F.Goodrich man gives you industrial tire advice . . . FREE!

Problem: There are many variables in industrial tire types, sizes, tread compounds and tread designs. Do you know which tire is right for you?

Solution: Without cost your B.F.Goodrich Tire and Wheel Analysis man will study your equipment, loads, hauling surfaces and other special problems. He'll recommend the right tires for you to use—recommendations that are unbiased because B.F.Goodrich makes a *complete* line of industrial tires.

Result: You save as much as 50% on industrial tire costs, up to 20% on maintenance costs! Mail the coupon today for your FREE B.F.Goodrich TW Analysis.

A special consulting service is available to manufacturers of materials handling equipment.

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A Division of
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Akron 18, Ohio

I would like further information on your FREE TW Analysis.
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COMPANY_____
STREET_____
CITY_____ ZONE____ STATE____

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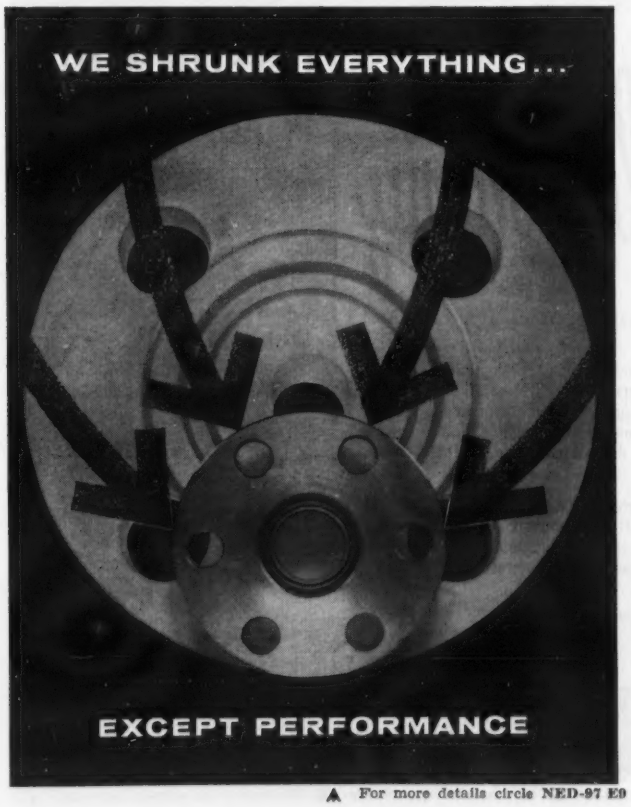


EXCEPT PERFORMANCE

Now you can save up to 50% in piping costs in high-pressure applications—with this new smaller and lighter flange

Now, for the first time, the long-standing problem of how to fit heavy and bulky flanges into the complex configurations of today's high-pressure piping systems has been solved. Equally important, this new stainless steel flange by Accessory Products actually handles pressures *equivalent* to those being handled by standard ASA flanges...*at a tremendous saving in cost!*

Available in line sizes from 1/4 inch through 2 inches, priced from $30 to $65—your choice of weld-neck, male pipe thread special high-pressure male adapters, and blind flanges. These flanges provide the ultimate in low-cost, compact, and reliable connectors for all high-pressure piping applications. For the complete story and specifications to meet your piping needs, write for Design Bulletin DB-159. Our engineers will be happy to discuss your specific applications.

APCO ACCESSORY PRODUCTS CORPORATION
a division of textron corporation
616 W. Whittier, Blvd., Whittier, Calif. Phone OXford 3-3747

▲ For more details circle NED-97 E9 on enclosed inquiry slip ▲

lifetime dependability with

BERGEN'S PRECISION ENGINEERED STEEL CABLE ASSEMBLIES

Standard or custom designed wire rope or cable assemblies to meet special conditions of corrosion, abrasion, high temperatures, excessive flexing, etc.

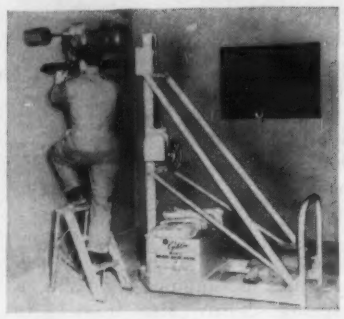
Available in high carbon steel, stainless steel, monel metal, phosphor bronze, galvanized steel, nylon or plastic coated, to name a few.

Send for Assembly Catalog CA-1

BERGEN WIRE ROPE COMPANY
502 GREGG STREET, LODI, N. J.
SPECIALISTS IN THE UNUSUAL

▲ For more details circle NED-103 E9 on enclosed inquiry slip ▲

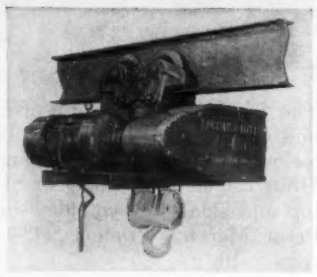
MASONRY DRILLING MACHINE handles difficult deep hole jobs



Dry-cutting carbide-tipped rotary masonry bits enable the Cycle-Core masonry drilling machine to handle difficult deep hole jobs in hard concrete containing large stone aggregate and reinforcing rods. Up to 8-in. diameter holes can be drilled horizontally or vertically to any depth, depending upon the shank length. Machine can drill horizontal holes from floor level to 7 ft high. Power is provided by a heavy duty gear reduction unit, driven by a 1 or 1½-hp single-phase motor mounted on a round column with rack and pinion feed. Base has ball bearing wheels for easy moving. Made by **New England Carbide Tool Co.**, 55 Commercial St., Medford 55, Mass.

▲ For more details circle NED-105 E9 on enclosed inquiry slip ▲

LOW HEADROOM HOISTS capacities range from 1½ to 7½ tons



Suited for operations needing extremely low headroom, Type F3 electric hoists are standard models with capacities from 1½ to 7½ tons. For example, the 5-ton hoist uses only 24 in. of headroom. Motor and control box are totally enclosed and weathertight, and use of low cost diaphragm on pushbutton station adapts hoists for outdoor use. Totally enclosed motor and brake are standard. Safety is provided by a four-position weight-operated limit switch. Mounting options include floor, lug suspension, manual and hand-geared trolleys, motor driven trolleys, and suspension from monorail trolleys. Power trolley speeds can be 30 to 150 fpm, single or variable speed. Made by **Robbins & Myers, Inc.**, Hoist & Crane Div., 1345 Lagonda Ave., Springfield 99, Ohio.

▲ For more details circle NED-106 E9 on enclosed inquiry slip ▲

System Testing

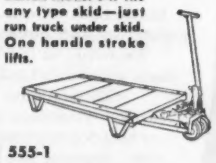
Dit-Mco, Inc., Electronics Div.—Emphasis is placed on the Dit-Mco Matrix Chart method of instantaneous electric circuit fault location and test presentation in the 64-page brochure describing the system. It contains criteria for an ideal test system, a suggested test system flow diagram, and an outline for setting up the system. Functions of the various test groups concerned with electrical circuitry testing are covered.

▲ For more details circle NED-107 E9 on enclosed inquiry slip ▲

BARRETT MODEL J-R SINGLE-STROKE LIFT-TRUCK

BARRETT Model J-R is the lowest priced work horse of ALL lift-trucks. Built for rough, hard handling jobs 2500- to 4000-lb. capacity loads from 30" to 72" long. Lift 1⅝" to 2⅝" standard. ONE STROKE raises skid—step on release treadle and hydraulic check lowers load gently.

Barrett Model J-R fits any type skid—just run truck under skid. One handle stroke lifts.



WRITE FOR LOW PRICES AND BULLETIN 555-1

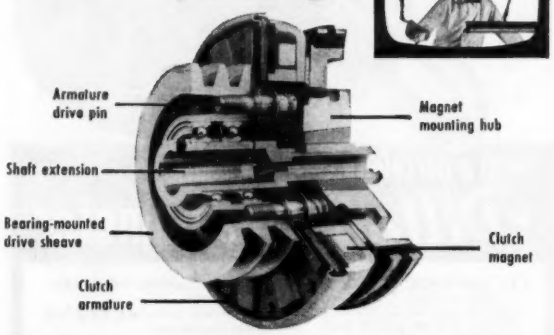
BARRETT-CRAVENS COMPANY
650 Dundee Road, Northbrook, Illinois
Representatives in All Principal Cities
Canadian Licensee: S. A. Armstrong, Ltd., Toronto, Canada

BARRETT
ONE MAN DOES MORE THAN 3 OR 4 ...WITH A BARRETT

▲ For more details circle NED-109 E9 on enclosed inquiry slip ▲

new...electric clutch-pulley package

electric motion control IDEAS



Warner Electro-Sheave

Modernizes machine drives and controls—fits all standard NEMA motors. Direct, low-cost method of converting to fully automatic or remote control. Fastest way to cycle a machine drive, with motor running continuously. Operates at any speed. Reduces motor wear and power consumption. Smooth, *adjustable* acceleration. Simple to install. Five sizes, from 1 to 25 hp, available off-the-shelf from all Warner distributors. Write for Bulletin P-52.

WARNER Warner Electric Brake & Clutch Co.
Beloit, Wisconsin

▲ For more details circle NED-110 E9 on enclosed inquiry slip ▲

LIKE WRAPPING a STRING AROUND...YOUR FINGER

Model CNV melter with agitator and needle valve dispenser; in 8 sizes from 2 qt. to 25 gal.

The only method which provides uniform, overall, low-wattage heat to melt compounds evenly and without burning or carbonizing the contents of the heating tank is *The Sta-Warm Method.*

Like wrapping a string around your finger, Sta-Warm wraps many feet (sometimes up to a mile) of specially designed heating coil around the entire sidewall and bottom areas of compound melters. Numerous circuits, each with its own heat control, are often employed to supply highly flexible heat control.

This method of heating a compound melting tank, kettle or pot is known as *The Sta-Warm Method* . . . proved by years of experience to be highly efficient, accurately controllable, low in operating and maintenance costs.

Typical inner tank showing many feet of heating circuit wrapped around sidewalls and bottom to distribute heat evenly without creating "hot spots".

Before you choose a compound melting tank, investigate Sta-Warm with its wide variety of standard sizes and shapes, with accessories engineered to meet your particular production problems. No obligation. Write Today.

"If You Can Wrap a String Around It, Sta-Warm Can Heat It for You."

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO
Subsidiary of ABRASIVE & METAL PRODUCTS CO.

▲ For more details circle NED-104 E9 on enclosed inquiry slip ▲

NEW

Revolutionary

*U.S. PAT. 2857 879, ISSUED OCT. 28, 1958.

DEVELOPMENT IN ABRASIVES THROUGH MAGNECOATING* Now! COATED ABRASIVE GRINDING DISCS with

- 150% MORE CUTTING EDGES
- 200% LONGER LIFE
- 2 TO 4 TIMES GREATER PARTICLE DENSITY
- ELIMINATION OF EDGE LOSS

Magnecoating® is a patented process for magnetically orienting abrasive particles. A **precut**, sturdy fiber disc is placed in a magnetic field — the particles are drawn to the disc in a vertical position, thus allowing more particles to the square inch. In use, the tops of the particles break off to create a new "biting edge."

A complete line of discs are available for standard, general industrial sheet metal, soft or semi-soft metals, ceramics, glass, wood and other special applications. Grit sizes are from 16 through 80 or finer. Disc diameter is 7" or 9⅛" with a ⅞" arbor hole.

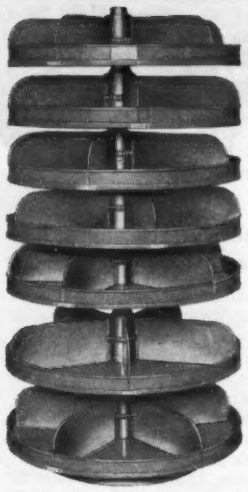
Write today for complete details and sample.

Giant Brand®

abrasive company of america
492 MAIN STREET, FORT LEE, NEW JERSEY
Warehouses — Fort Lee, N. J. — Omaha, Nebraska — Detroit, Mich. — Los Angeles, Calif. Jobbers located in all principle cities
Jobbers — some authorized territories still open, write immediately.

▲ For more details circle NED-108 E9 on enclosed inquiry slip ▲

LYON® REVOLVING BINS



REAL VISIBILITY and AVAILABILITY of STORED PARTS

Save Time and Steps

Ideal storage for bulk stock, parts, nuts, bolts, screws, etc. 7-shelf unit (illustrated) is 34" diameter x 65-11/16" high. 4-shelf unit is 37-11/16" high.

Each shelf has 5 permanent dividers. Up to 5 additional dividers can be added. Green baked-enamel finish.

Write for free 84-page Lyon Steel Equipment Catalog

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Illinois and York, Pa.
Dealers and Branches in all Principal Cities

▲ For more details circle **NED-111 E9** on enclosed inquiry slip ▲

JET-LIFT

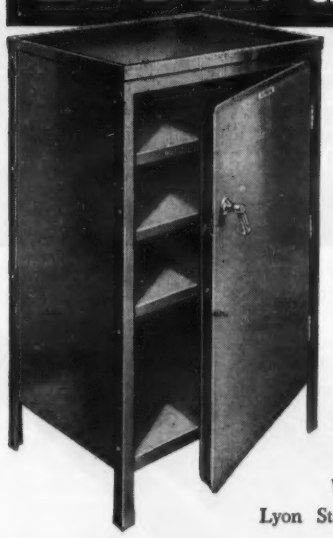
PORTABLE MANEUVERABLE-VERSATILE-COMPACT

The JETROW HEAVY DUTY HYDRAULIC JET-LIFT saves man power by cutting handling costs. It provides an easy method of lifting loads to correct working heights, has three lifting speeds, fingertip lowering control. Can easily be adapted to specialized requirements. Cost is surprisingly low. Specifications are: Lifting range 9" to 53"; overall size: lowered position height—26", width—28½", length—59"; lift platform—28" x 36"; wheels—8" dia. Available in 2000 and 3000 lb. capacities.

THE JETROW CO., BRIDGEPORT, OHIO

▲ For more details circle **NED-112 E9** on enclosed inquiry slip ▲

LYON® TOOL STAND CABINET



Provides top working surface plus lock-up space for valuable tools, dies, precision instruments, etc. Dimensions: 21¼" wide, 15¼" deep, 34" high. Three shelves adjustable every 2". Built-in lock. Top easily reversed to give a flat working surface. Casters available. Finish, green baked-on enamel.

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Factories in Aurora, Illinois and York, Pa.
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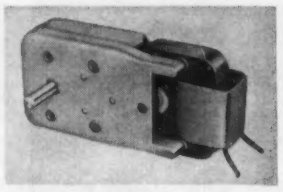
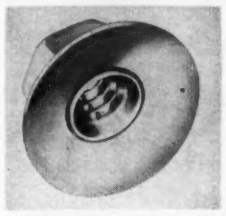
SMALL AC MOTORS offered with gear reduction units



Appliance and general applications are served by six reducer - equipped SpeedWay subfractional horsepower alternating current motors. Complete high torque units are only 1 13/32 in. thick. The Z-type reduction units are available for continuous and intermittent duty applications with certain motors. Motor is an extension of the gear case and is 5½ in. long and 2⅝ in. wide. Wide face gears withstand shock loads. Various load capacities with a speed range as low as ¼ rpm are offered. Made by **Thor Power Tool Co.**, SpeedWay Motor Div., 1421 Barnsdale Rd., LaGrange Park, Ill.

▲ For more details circle **NED-114 E9** on enclosed inquiry slip ▲

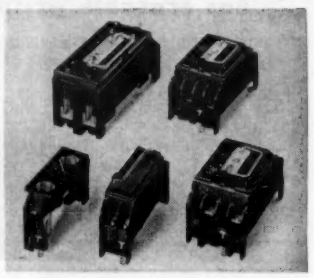
NUT-WASHER ASSEMBLY in dished and conical washer types



Preassembled nut and washer units called Keps are offered in plain dished washer and conical washer types. They are recommended for spanning bolt holes and distributing the fastener load around and away from the hole. Other Keps already in use include external lock washer, dished lock washer, domed lock washer, and sealing types. The two new Keps are offered in sizes from No. 8 to 5/16 in. with various washer sizes. Made by **Illinois Tool Works**, Shakeproof Div., St. Charles Road, Elgin, Ill.

▲ For more details circle **NED-115 E9** on enclosed inquiry slip ▲

MODULAR FUSIBLE DEVICES handle applications up to 200 amp



Ten enclosures and five stab-in devices which comprise this modular fusible service line will handle loads up to 200 amp. They replace 208 devices previously required to do the same job. System is based on a 1½-in. module dimension. Stab-ins are inserted where and when needed without bolted connections. Shown left to right in top row are the 100-amp cartridge fuse main or branch pullout and the 60-amp cartridge fuse main pullout. In the bottom row are the 30-amp twin plug fuse branch unit, the 30-amp cartridge fuse main or branch pullout, and the 60-amp cartridge fuse main pullout. Enclosures comprise five series and five parallel types (split bus). Made by **Federal Pacific Electric Co.**, 50 Paris St., Newark 1, N. J.

▲ For more details circle **NED-116 E9** on enclosed inquiry slip ▲

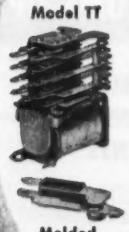
OHMITE®

THE QUALITY LINE OF INDUSTRY-PREFERRED COMPONENTS

OHMITE RELAYS
with exclusive "Molded Module"* contact spring construction

*patent applied for

Model TT



Molded Module

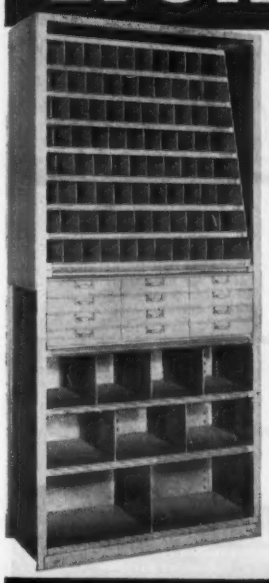
The "module" is a standard, single-pole, double-throw spring combination molded into a single compact assembly. As many as six modules can be incorporated into a relay. Model TT (illus.). Coil Wattage: Rated nominally at .150 watt per pole at an ambient of ±20°C; Coil Operating Voltage Range: to 115 VDC; Contact Ratings: up to 5 amperes at 115 volts a.c. or 32 volts d.c. noninductive. Also many other relays available, standard and made-to-order. Write on company letterhead for Catalog 58.

OHMITE Manufacturing Co.
3624 Howard Street
Skokie, Illinois

RESISTORS RELAYS TAP SWITCHES
RHEOSTATS TANTALUM CAPACITORS
R. F. CHOKES VARIABLE TRANSFORMERS DIODES

▲ For more details circle **NED-117 E9** on enclosed inquiry slip ▲

LYON® TOOL SHELVING



COMPLETE RANGE OF TOOL STORAGE UNITS MEETS EVERY REQUIREMENT

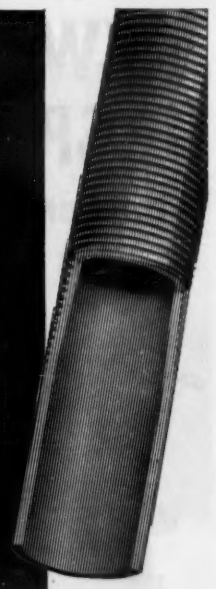
The illustration shows one of many combinations of shelving and storage inserts you can custom-build with standard Lyon units. Shelving sections are 3' wide, 1½' deep, 7' high. Shelf dividers are adjustable every inch. No nuts, bolts or tools. Inserts include pigeon hole, sloping front, drawer case and swinging panel units. Finish, green baked-on enamel.

Write for free 84-page Lyon Steel Equipment Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Illinois and York, Pa.
Dealers and Branches in all Principal Cities

▲ For more details circle **NED-118 E9** on enclosed inquiry slip ▲

NEED HELP ON HEAT TRANSFER?



Call for a Wolverine technical sales representative to discuss Wolverine Trufin,® the integral finned tube for increased heat transfer!

Wolverine Trufin is available in Canada through the Unifin Tube Division, London, Ontario.

WOLVERINE TUBE
DIVISION OF
CALUMET & HECLA, INC.
17270 Southfield Road
Allen Park, Michigan
Manufacturers of Quality-Controlled Tubing and Extruded Aluminum Shapes

▲ For more details circle **NED-119 E9** on enclosed inquiry slip ▲

LYON® STEEL STOOLS

100 MODELS

You name the requirement—there's a Lyon stool to meet it. With or without backs—ventilated steel or pressed wood seats—glide, swivel caster or rubber-cushioned feet. Adjustable legs if desired. All stools built of heavy-duty steel, all-welded construction. Finished in green baked-on enamel.

Write for free 84-page Lyon Steel Equipment Catalog

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Illinois and York, Pa.
Dealers and Branches in all Principal Cities

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Here's Your **ABC's** ON NEWEST ROTARY PUMPS

A SERIES LOW TO MEDIUM VISCOSITY

High speed units to pump 3 to 25 gpm . . . low speed units 20 to 97 gpm. Maximum operating pressures to 100 psi. Gear, V-Belt or direct drives.

B SERIES HAZARDOUS LIQUIDS

Sealed units U. L. Approved. High speed pump up to 23½ gpm . . . low speed pump to 90 gpm. Maximum U. L. pressure rating for hazardous fluids 50 psi. Gear, V-Belt or direct drives.

C SERIES RUGGED DUTY MEDIUM-HIGH VISCOSITY

Continuous operation packed pumps. Heavy outboard thrust bearing. Pump up to 211 gpm at pressures to 125 psi. Gear, V-Belt and direct drives. Threaded or flanged ports. Also Series "E" steam-jacketed pumps.

THE WAYNE PUMP COMPANY
Division of Symington Wayne Corporation
Industrial Division
Fort Wayne 4, Indiana

Wayne PUMPS

▲ For more details circle NED-122 E9 on enclosed inquiry slip ▲

NEW CLAUSING HI-SPEED LATHES

With Hand Feeds and Variable Speeds up to 3200 R.P.M.

- spindle speeds, infinitely variable up to 3200.
- six models, with choice of lathe with six-station Timken bearing equipped bed turret and double tool cross slide . . . with double tool cross slide and tailstock with lever-and-wheel feed . . . or with precision compound and tailstock with lever-and-wheel feed.
- 12¾" swing, 1-1/16" collet capacity, ASA—L-00 spindle, Timken "Zero Precision" tapered roller bearings, flame hardened bed ways, ball bearing collet closer.
- built to rigid specifications for precision performance.
- outstanding in value — low price includes motor and electricals, with machine assembled, wired, ready for installation.

The new Clausings are FAST... HIGHLY ACCURATE . . . and LOW IN COST. They'll pay out quickly in your production department, tool room or laboratory. Investigate before you invest in *any* high speed lathe.

Write for Free Literature **CLAUSING DIVISION**
CLAUSING ATLAS PRESS COMPANY
5-113 N. Pitcher St. Kalamazoo, Mich.

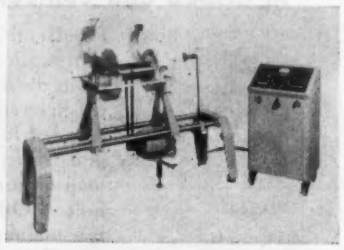
▲ For more details circle NED-123 E9 on enclosed inquiry slip ▲

PLASTIC RETAINER BEARINGS offered only in nonstandard sizes

Glass fiber filled nylon retainers are being offered in addition to steel retainers in needle thrust bearings with up to a 3-in. bore. Bearings with plastic retainers are offered only in nonstandard sizes made to customers' specifications. This type of retainer permits lower tooling costs for special sizes, particularly for short runs or low volume. Life and load capacity ratings are unchanged. The conical needle thrust bearing, capable of taking both thrust and radial loading, is produced only with the plastic retainer. Made by **Torrington Co.**, Torrington, Conn.

▲ For more details circle NED-124 E9 on enclosed inquiry slip ▲

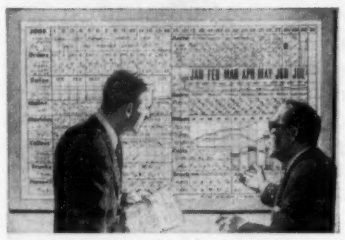
DYNAMIC BALANCER handles 2 to 600-lb rotors



Versatility and ease of setup are featured by Model SU-7 dynamic balancer which locates unbalance and determines its magnitude in turbines, impellers, aircraft accessories, armatures, pulleys, drums, and other types of rotors. Range switch allows direct reading over range of 1 to 10,000 units. Machine accommodates rotors from 2 to 600 lb with swing diameters up to 76 in. It meets USAF specification MIL-B-25511. Made by **Micro Balancing, Inc.**, Herricks Road, Garden City Park, L. I., N. Y.

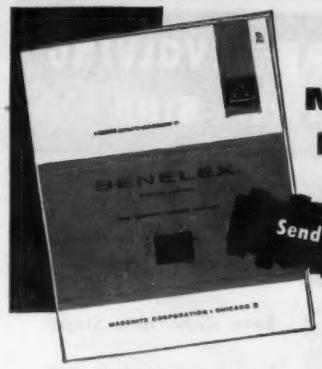
▲ For more details circle NED-125 E9 on enclosed inquiry slip ▲

VISUAL CONTROL BOARD has erasable writing surface



Step-by-step scheduling, charting, planning, and other operations can be simplified by use of the Vis-U-All visual control board. It can be used for one or more purposes at the same time. Constructed of plasticized wood, the 36 x 24-in. framed unit has an erasable writing surface for china or grease pencils. The white face has a permanent, black-lined grid. Board can also be used on an easel, mounted on a wall, or hung by picture wire. Headings may be hand lettered, or self-adhesive printed material may be used. Kit of headings printed on white and colored pressure-sensitive material is included. Price is $24.50. Made by **L. D. Blehart Co.**, 10 Fiske Place, Mt. Vernon, N. Y.

▲ For more details circle NED-126 E9 on enclosed inquiry slip ▲



Get the facts about **MASONITE BENELEX** panels

Send for your free copy!

...for original equipment uses...as a die stock material...as an electrical panel product

It performs like metal...handles like wood. Masonite® Benelex® brings new ways for improving products and cutting production costs.

High in density, structural strength and dimensional stability, Benelex hardboard is much lighter in weight than the metals it replaces. It fabricates to close tolerances.

Two types are available: Benelex 30 in panels ⅜" to 1¼" thick, and Benelex 70 (with good dielectric properties) in panels ¼" to 2" thick. Get the full story in our free booklet. Address Masonite Corporation, Dept. NED-5, Box 777, Chicago 90, Ill.

MASONITE CORPORATION

®Masonite Corporation—manufacturer of quality panel products.

▲ For more details circle NED-128 E9 on enclosed inquiry slip ▲

NEW PURGE ROTAMETERS *have stainless steel parts*

SK Fig. 1853 Purge Rotameter. Rate of fluid flow is indicated by position of ball float in relation to scale beside tube.

SK Purge Rotameters for indicating and manually controlling small flows are competitively priced yet give these advantages—stainless steel internal parts . . . positive back flow check valve . . . effective flow control valve . . . removable tube feature. Available with differential regulator for automatic control of purge rate of flow. Also supplied in lucite and Kel F. Write for new Bulletin 18P.

Schutte and Koerting COMPANY
INSTRUMENT DIVISION
2227 STATE ROAD, CORNWELLS HEIGHTS, BUCKS COUNTY, PA.

▲ For more details circle NED-129 E9 on enclosed inquiry slip ▲

Q. WHERE CAN A **MIGHTY-MITE** VIBRATING SCREEN SAVE MONEY FOR YOUR COMPANY?

A. WHEREVER YOU HAVE MATERIALS TO BE SCREENED, DEWATERED, DEDUSTED OR RECLAIMED IN LOW VOLUME UP TO 15 T. P. H.

SINGLE AND DOUBLE DECK MODELS PROVING PROFITABLE IN HUNDREDS OF INDUSTRIAL ASSIGNMENTS

All over America, in hundreds of plants you'll find Mighty-Mite vibrating screens on the job. These well-engineered, low-first-cost screens save time, save labor by doing a multitude of screening jobs accurately. Whatever you have to screen, dedust, dewater or reclaim in low volume (up to 15 T. P. H.) it will pay you to do it with a Mighty-Mite.

SEND FOR BULLETIN NO. 12 TODAY.

SCREEN EQUIPMENT CO., INC.
BUFFALO 25, NEW YORK

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THE *Original* NYE
4 POINT PUNCH
KNOCKOUT PUNCH

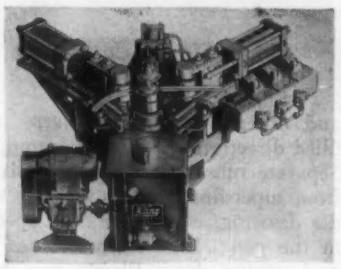
Each punch ½" to 4" has the ORIGINAL 4-POINT cutting feature which takes the toil out of the job. Cuts clean, quick knockouts speedily, smoothly and burrless. Ball bearing chuck prevents friction. Hand or hydraulic.

Try a NYE and know the best. Order today.

NYE TOOL COMPANY
4126 WEST FULLERTON AVE., CHICAGO 39, ILLINOIS

For more details circle NED-130 E9 on enclosed inquiry slip

ANGLE BENDING ROLL
horizontal double pinch type



Most of the flat ends produced in angle bending are eliminated by the No. 1½ H horizontal, hydraulic, double pinch type angle and structural bending roll. A steel section can be bent completely around the center roll. Pinch rolls and the gaging rolls are moved by heavy duty hydraulic cylinders which provide the operator with instant response and sensitive control. A two-stage "high-low" pump brings rolls into position quickly and, upon contact with the work, develops full working pressure immediately. The cone type worm gear drive is mounted on antifriction bearings. Positive drive for both stationary and gaging rolls is provided. Roll diameters offered are 8, 10, or 12 in. Maximum rolling speed of material with 12-in. rolls is 41.4 fpm. Made by **Kling Bros. Engineering Works**, 1320-32 N. Kostner Ave., Chicago 51, Ill.

For more details circle NED-133 E9 on enclosed inquiry slip

2739

Ask for
FREE LITERATURE BATCH
No. T-821

THE HAMILTON TOOL COMPANY
901 HANOVER STREET • HAMILTON • OHIO

For more details circle NED-136 E9 on enclosed inquiry slip

NOW! custom made V-BELTS in any length with

ALLIGATOR V BELT FASTENERS

SIMPLE AS A-B-C!
When an endless belt breaks, merely cut off the required length of belt from a roll of Open End V-Belting, apply an Alligator V-Fastener and the machine is ready to "roll" again.

DESIGN NEW DRIVES WITH THIS IN MIND
V-belts can now be made to any length . . . center distances are no problem . . . eliminate need for special length belts.

ONE STRONG JOINT
Permits fast and easy installation on all types of drives, particularly fixed center drives and drives with outboard bearings.

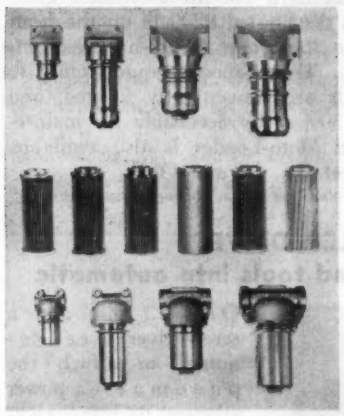
SOLD IN COMPLETE PACKAGE KITS 5 SIZES! Order from your distributor.

SEND FOR NEW BULLETIN ON CUSTOM MADE V-BELTS #V-227

"FOR THE SPLICE OF A LIFETIME"
Flexible STEEL LACING COMPANY
4664 LEXINGTON ST. • CHICAGO 44, ILLINOIS

For more details circle NED-131 E9 on enclosed inquiry slip

FILTER ASSEMBLIES
offered with replacement elements in 150-2500 and 1000-5000 psi ratings



Two lines of standardized T-type in-line filters and their replacement elements have filtration ratings from 2 to 250 microns. Flow ranges are 1 to 24 gpm with Mil - H - 5606 and 200 to 2500 scfm with air at 3000 psi. They filter liquid oxygen and nitrogen, aviation gasoline, kerosine, Skydrol 500, Oronite 8200, and 8515, water, acetone, trichlorethylene, petroleum ether, alcohol, air, gaseous oxygen and nitrogen, helium, lubrication oils, and various other fuels and oils.

Four basic high pressure Series 2872 sizes (top row), rated for 1000 to 5000 psi, have valves to by-pass fluid if the micronic element becomes clogged. Low pressure Series 6234 (bottom row), also made in four sizes with various port sizes and by-pass valves, is designed for 150 to 2500 psi. Six Series 6235 basic replacement elements (middle row) can be installed in both low and high pressure filter assemblies. They have varied filtering characteristics. Made by **Bendix Aviation Corp.**, Bendix Filter Div., 434 W. 12 Mile Rd., Madison Heights, Mich.

For more details circle NED-134 E9 on enclosed inquiry slip

All-Service Xtra Cushion Solid Tire from Goodyear—a rugged performer from any angle!

New Slant on Pressed-on "Solids"

Have you ever seen an All-Service "Solid" from this angle before? Chances are, you haven't. But we photographed it this unique way to dramatize some very practical points.

For example, notice the tread design of this Goodyear Industrial Tire. Notice how the lugs are sharply angled for superior traction on ramps or wet, slippery surfaces.

Check the thickness of that tread too. It's extra thick for extra resilience and cushioning. The result: lower floor and truck maintenance costs. Less load damage, too.

Add to all this—tougher compounds for minimum chipping and cutting, lasting adhesion of rubber to base band, *plus* maximum smoothness and stability.

These advantages can mean only one thing to you: Superior service at lower cost. For all the facts on the All-Service—and the complete line of Goodyear Solid and Pneumatic Industrial Tires—call in your Goodyear Dealer. Or write: Goodyear, Industrial Tire Sales, Akron 16, Ohio.

INDUSTRIAL TIRES BY
GOODYEAR
More tons are hauled on Goodyear Truck Tires than on any other kind

All-Service —T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-137 E9 on enclosed inquiry slip

NOW! a "Valve Finder"

HANNIFIN offers you a 12-page guide to air valve selection

Now, you can choose the right air valve for any application ... quickly ... confidently. Just follow the three simple steps outlined in this new "Valve Finder".

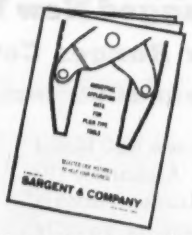
With this new booklet, you are your own valve expert. It makes it easy for you to pick the one valve that best suits your purpose from the complete valve line which Hannifin offers.

Write for this new "Valve Finder". It's free.

HANNIFIN COMPANY
527 South Wolf Road • Des Plaines, Illinois
A DIVISION OF PARKER-HANNIFIN CORPORATION

For more details circle NED-132 E9 on enclosed inquiry slip

FREE BOOKLET may solve your hand tool problem...



It's yours for the asking: Sargent's new booklet "Industrial Application Data for Plier-Type Tools." Contains detailed case histories on cutting, shaping, crimping, punching and holding problems solved with Sargent precision hand tools. Describes and illustrates Sargent's parallel action, compound hand pliers, punches and special purpose tools many of which are designed on a custom basis. Mail coupon now for your copy.

SARGENT & COMPANY, New Haven 9, Conn. Dept. 19-E

Gentlemen: Please send me your new booklet "Industrial Application Data for Plier-Type Tools."

Name _____ Title _____
Company _____
Street _____
City _____ Zone _____ State _____

Sargent & Company, New Haven 9, Conn. Dept. 19-E
Manufacturers of quality locks, hardware and tools since 1864.

For more details circle NED-135 E9 on enclosed inquiry slip

Skinner introduces low price two-way high pressure solenoid valve

Type: Two-way normally closed, Series R.

Operating Pressure Differentials: 5 to 1250 psi on AC operation; 5 to 1000 psi on DC operation. Higher standard-plus ratings available.

Orifice Size: 1/4" diameter with 1/4" NPT ports.

Options: Choice of electrical outlets — grommet, 1/2" NPT conduit, strain relief connector, automotive terminals, etc. Flow option — manual override.

Media: Air, oil, water.

Temperature Range: Ambient and media — minus 40°F to plus 180°F.

Voltage: All common AC and DC voltages.

Features: Built to UL requirements in standard and explosion-proof construction; stainless steel internal parts; forged naval brass body; compact; spring-loaded plunger for positive closing; mounts in any position.

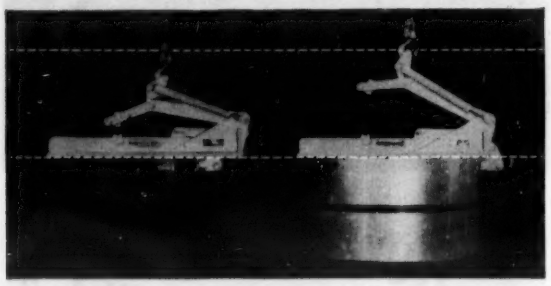
Contact a Skinner Representative listed in Yellow Pages or write us at Dept. 435.

SKINNER ELECTRIC VALVES

THE CREST OF QUALITY THE SKINNER ELECTRIC VALVE DIVISION • NEW BRITAIN, CONNECTICUT

▲ For more details circle **NED-147 E9** on enclosed inquiry slip ▲

NEW HEPPENSTALL COIL TONGS



stack large and small diameters to within 24 inches of the crane hook

Only two feet high at greatest extension, these new Heppenstall Tongs put more coils into less space, faster. By simple manual adjustments, these tongs handle inside diameters as small as 5 inches and up to 20 inches, outside diameters from 6 to 40 inches, with a 1,000 pound capacity rating. Custom models of this same design will handle coils up to 3,000 pounds. For more information and a quotation, call your Heppenstall Company Representative or send us your load and operating requirements. Heppenstall Company, Materials Handling Division, New Brighton, Penna.

HEPPENSTALL COMPANY

PITTSBURGH 1, PENNSYLVANIA

PLANTS: Pittsburgh, Pa. • Bridgeport, Conn. Indianapolis, Ind. • New Brighton, Pa.

MIDVALE-HEPPENSTALL COMPANY

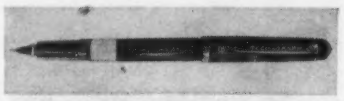
Nicetown, Philadelphia 40, Pa.

Die Blocks • Forgings • Back-up Roll Sleeves Rings • Industrial Knives • Pressure Vessels Hardened and Ground Steel Rolls Materials Handling Equipment

IF IT HANGS FROM A CRANE . . . HEPPENSTALL CAN HANDLE IT

▲ For more details circle **NED-148 E9** on enclosed inquiry slip ▲

FOUNTAIN PEN nibs offered for six line widths



This Techagraph fountain pen for precise lettering, drafting, chart work, and other uses assures sharp, uniform lines. It is filled directly from ink bottle and will not leak or clog. Separate nibs are available in six line widths ranging from super-fine to extra broad. Writing, drawing, India drawing, waterproof, and special inks can be used in the pen. It is easily cleaned by rinsing in water and wiping dry. Plastic case has sponge lining to prevent drying and contains nib cleaner. Price is $4.75. Made by **Alvin & Co.**, Palisado Avenue, Windsor, Conn.

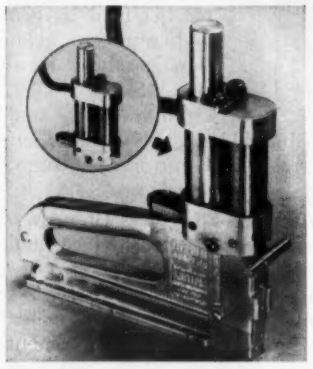
▲ For more details circle **NED-149 E9** on enclosed inquiry slip ▲

FRONT END LOADER is 2-cu yd, 4-wheel drive unit

Planetary 4 - wheel drive, power assist steering, torque converter and automatic transmission, and 4 - wheel hydraulic power booster brakes are standard on this Model ML-157 2-cu yd front end loader. With standard 105-hp 6-cylinder gasoline engine, weight is distributed 8200 lb on the front axle and 10,900 lb on the rear. A 110-hp diesel engine is also available. Travel speeds range from 3 to 24 mph. All controls are conveniently located, and all parts of machine are easily accessible for maintenance. A 1¾ cu yd Moto-Loader is also available. Made by **Thew Shovel Co.**, Lorain, Ohio.

▲ For more details circle **NED-150 E9** on enclosed inquiry slip ▲

TACKER & NAILER DRIVE converts hand tools into automatic



Only 2 min and a screwdriver are required to attach the pneumatic power adapter to hand tackers or nailers so that they can function as automatic tools. Adapter has power to drive and countersink long staples. Each touch of the trigger drives a staple straight and true. One hand is required to operate the tool. Adapter does not interfere with the hand grip and adds only 1 lb to the tool weight. Made by **Heller Roberts Mfg. Corp.**, Heller Industrial Fastener Div., 6111 Carnegie Ave., Cleveland 3, Ohio.

▲ For more details circle **NED-151 E9** on enclosed inquiry slip ▲

Rugged New Vacuum Gauge *With Six Ranges Covering Pressures from 1000 mm. to 0.1 micron*

NRC Model 520

The new NRC Model 520 Alphatron (R) Ionization Vacuum Gauge is equally ideal for the laboratory and production floor. It is both precisely accurate and nearly immune to abuse. Ruggedized new circuitry eliminates troublesome components, minimizes contamination effects, and provides highly stable and linear amplification. A direct reading, total pressure gauge with almost instantaneous response, the Model 520 is accurate to ± 2% and linear over the entire range. Drift is less than 0.5% despite wide line voltage variations. It is especially useful with a recorder or controller and makes an efficient leak detector. Write today for Bulletin 21-D

NRC Equipment Corporation

Subsidiary of National Research Corporation

Dept. 29-E, Charlemont Street

Newton 61, Massachusetts

▲ For more details circle **NED-152 E9** on enclosed inquiry slip ▲

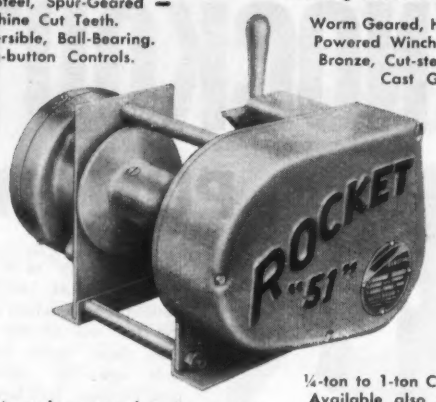
Winches

David Round

Capacities— Standard Models, from 500 lbs. to 5-tons. Larger sizes engineered to specs.

Electric — All-Steel, Spur-Geared — Machine Cut Teeth. Reversible, Ball-Bearing. Push-button Controls.

Worm Geared, Hand-Powered Winches — Bronze, Cut-steel or Cast Gears.



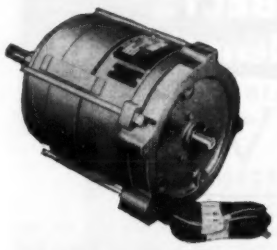
¼-ton to 1-ton Cap'y. Available also with Air Motor.

Efficient, low cost, handy power for a wide variety of hoisting and pulling jobs. Mechanically rugged, completely safe. For use with either 110 or 220 Volt, single or three-phase currents. Ask your distributor or write for catalog Bulletin 95-WI-5A.

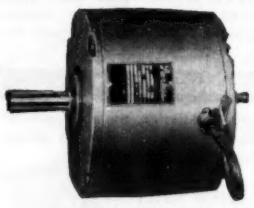
DAVID ROUND & SON, INC., CLEVELAND 22, OHIO

▲ For more details circle **NED-153 E9** on enclosed inquiry slip ▲

MOTORS *for special OEM applications*



SPECIAL CONSTRUCTION TO CUSTOMER SPECS



TOTALLY ENCLOSED SPACE-SAVER

Let your imagination run wild. Design your product to do a job. Peerless has designed hundreds of modified standard and special motors—one operates on the bottom of the sea . . . another on an underwater TV camera . . . one drives a pump handling atomic wastes. Peerless can do the same for you.

When you're ready for power, see Peerless. Our engineers will work with you to develop the motor that powers your product best. There's a Peerless representative near you. Call him today.

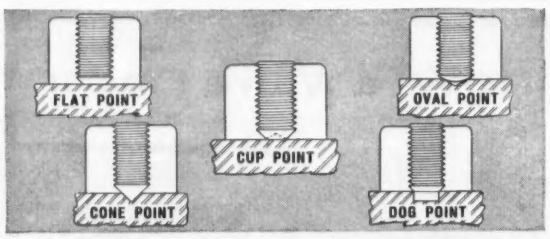
ELECTRIC MOTOR DIVISION

THE *Peerless-Electric*® COMPANY

FANS • BLOWERS • MOTORS

1527 W. MARKET ST. • WARREN, OHIO

▲ For more details circle **NED-154 E9** on enclosed inquiry slip ▲



Dimensionally Controlled Heat Treatment gives Mac-it screws extra strength

Speed, vibration, stress are tough operating conditions that extra strong, extra resilient Mac-it set screws handle with amazing ease. These high quality screws are made of special pre-tested alloy steel, produced with clean, sharp, fully formed threads and points.

Controlled heat treatments, based on material, physical dimensions and end-use, mean that Mac-it set screws resist upsetting of the points and rounding out or splitting of the hex sockets. They are available with cup, flat, cone, oval, and dog points—you select the style you need.

Mac-its hold tight in tight places!

Buy by name from your distributor—buy Mac-it

NEW SPECIFICATION SHEET listing new 1960 Series Industry Dimension Standards for socket head cap screws. Write for your *free* copy.

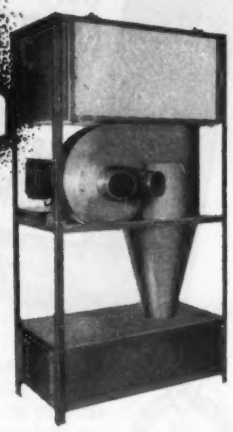
Mac-it Parts Co., Dept. 24, Lancaster, Pa.

MAC-IT ALLOY STEEL SCREWS

▲ For more details circle **NED-155 E9** on enclosed inquiry slip ▲

EFFICIENT–LOW COST

Dust Collection



Easy installation . . . efficient low-cost operation . . . simplified maintenance, make Dustkop *FIRST* among equipment to collect most all industrial dusts. There are Dustkop models to eliminate your dust problems . . . that are space saving, self-contained units, or exhaust type for rafter, ceiling or outside location. Write for descriptive literature.

DUSTKOP STOPS DUST

37 STANDARD MODELS TO CHOOSE FROM

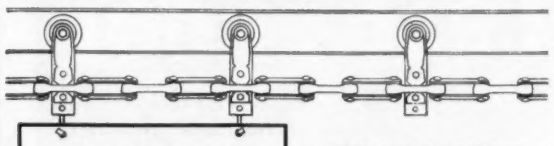
• READY TO USE

Also a Complete Line of Mist Collectors

AGET MANUFACTURING COMPANY
1396 E. CHURCH ST. • ADRIAN, MICHIGAN

▲ For more details circle **NED-156 E9** on enclosed inquiry slip ▲

LINK-BELT conveyor TROLLEYS



MADE IN LINK-BELT'S BALL AND ROLLER BEARING PLANT

Trolleys are only as good as their bearings. That's why Link-Belt trolleys are *MADE IN A BEARING PLANT BY BEARING SPECIALISTS.*

Simple and rugged, Link-Belt ball-bearing trolleys maintain rolling contact in all positions . . . create minimum power demand . . . give long, trouble-free service.

Available in 2- or 4-wheel types, riveted or bolted, for 3-, 4- or 6-in. I-beams.

NEW TROLLEY BOOK 2636 is now available. Send for your copy today!

LINK-BELT

BALL BEARING CONVEYOR TROLLEYS

LINK-BELT COMPANY, Prudential Plaza, Dept. NED, Chicago 1, Ill. 15,008

▲ For more details circle **NED-157 E9** on enclosed inquiry slip ▲

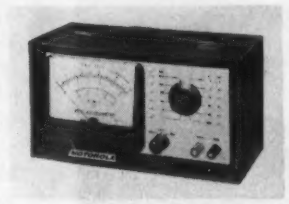
HIGH SPEED MARKER
for round shapes

Continuous Marker for round, solid, tubular, or conical shapes. Can be equipped with Feed and Ejector for automatic operation. Write for Bulletin 146 C-9.

JAS. H. MATTHEWS & CO.
3962 Forbes Ave. • Pittsburgh 13, Pa.
Offices in Principal Cities

▲ For more details circle **NED-158 E9** on enclosed inquiry slip ▲

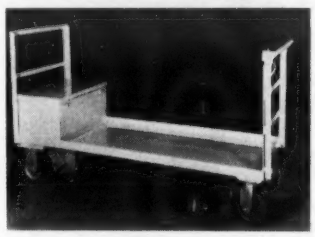
AC VOLTMETER
battery unit is transistorized



Full scale readings of 1 mv to 300 v in 12 ranges with an essentially flat frequency response of 20 cycles to 1.5 megacycles are incorporated in the Motorola transistorized alternating current voltmeter. It has decibel and "battery OK" scales. The battery operated unit can be used to design, test, install, adjust, and service many types of electrical and electronic equipment. Accuracy is ±5 per cent up to 1 megacycle. Protection from damage by overloads up to 550 v is afforded. The 5-lb unit measures 5 x 5 x 10 in. Made by **Motorola Communications & Electronics, Inc.**, 4501 W. Augusta Blvd., Chicago 51, Ill.

▲ For more details circle **NED-159 E9** on enclosed inquiry slip ▲

ELECTRIC TRUCKS
battery powered, transport 1600 lb



Noiseless, fume - free transporting of plant loads up to 1600 lb is possible with Electromite M2 battery-powered walking trucks. Power mechanism is built into one of the rigid casters. Battery, enclosed in compact case, can be carried anywhere on the truck or bin. Buttons control forward and reverse speeds up to 4 mph. Trucks will travel up a 10 per cent grade and are equipped with dynamic brakes and solid rubber tires in 8 and 10-in. sizes. Low voltage battery is recharged by plugging into 115-v ac electric outlet. Made by **Dynex, Inc.**, 16th & Kellogg Streets, Covington, Ky.

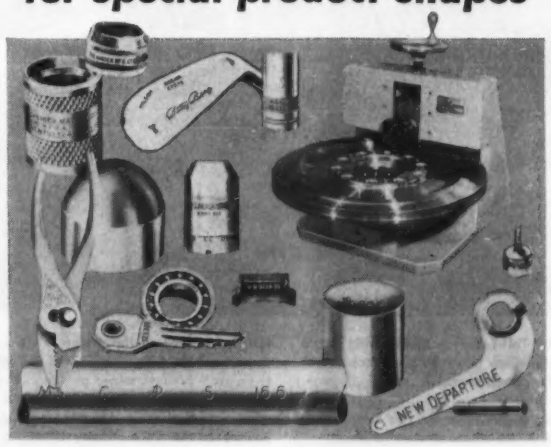
▲ For more details circle **NED-160 E9** on enclosed inquiry slip ▲

LAPPING MACHINES
can relap their own plates

Lapping accuracy within one light band (0.0000116 in.) can be generated by the Spiralap line of flat lapping machines. They utilize a rotating lapping plate with a spiral groove filled with abrasive compound. Two or more adjustable work locating arms cause the lap to rotate the workpiece. Two timers control the work cycle and total use-time of the lapping plates between conditionings. Machines can relap their own plates to aid in maintaining quality control. Made by **Micromatic Hone Corp.**, 8100 Schoolcraft Ave., Detroit 38, Mich.

▲ For more details circle **NED-161 E9** on enclosed inquiry slip ▲

SPECIAL MARKERS
for special product shapes



Simple hand units or electronic marvels; all provide the simplest, most economical marking for special applications. Write, giving details or send sample product.

JAS. H. MATTHEWS & CO.
3962 Forbes Ave. • Pittsburgh 13, Pa.
Offices in Principal Cities

▲ For more details circle **NED-162 E9** on enclosed inquiry slip ▲

INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

★ Quick Laboratory Service On Your Problem Markings

★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

For Complete Information Phone BAker 5-8201 or write:

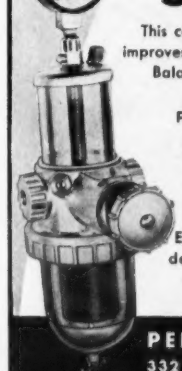
PHILLIPS PROCESS CO. INC.
192 MILL STREET
ROCHESTER 14, N.Y.

▲ For more details circle **NED-163 E9** on enclosed inquiry slip ▲

Get that "refined" air

PSC Universal air — PERFECTING SERVICE CO. — CHARLOTTE, NORTH CAROLINA

*3 in 1 Unit**



This compact pedigreed unit greatly simplifies and improves air line control.

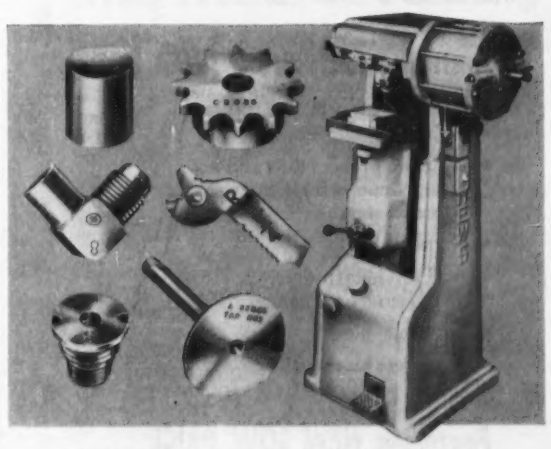
Balanced piston valve REGULATOR permits instant response to load changes . . . allows sensitive pressure adjustments without bleeding off lines. LUBRICATOR injects a fog-like mist of oil into the air stream . . . has external oil adjustment . . . and oil reservoirs refillable without line stoppage. FILTER cartridges replaceable without tools or removing unit from line. Each unit can be furnished separately or in any desired combination. For full information contact our nearest office or write for Bulletin No. 80.

*Patented

PERFECTING SERVICE CO.
332 Atando Ave. Charlotte, N. C.
Baltimore—Buffalo—Camden, N. J.—Chicago—Cleveland—Los Angeles
New York—Providence—Hamilton, Ont.—Montreal—Toronto

▲ For more details circle **NED-164 E9** on enclosed inquiry slip ▲

VERSATILE MARKER
for rounds or flats



If you have a variety of shapes to mark, write for Bulletin FGP 20. Full description of Matthews General Purpose Machines.

JAS. H. MATTHEWS & CO.
3962 Forbes Ave. • Pittsburgh 13, Pa.
Offices in Principal Cities

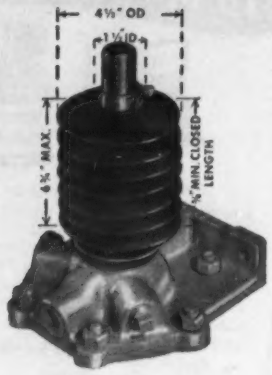
▲ For more details circle **NED-165 E9** on enclosed inquiry slip ▲

PROTECTED

GORTITE (neoprene)

SLEEVES

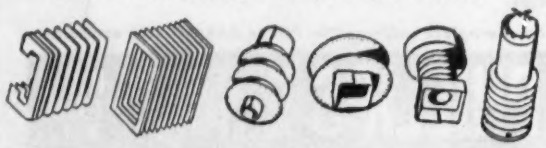
BOOTS



Ask for new bulletin AH-3

A&A MFG. COMPANY, Inc.
712 S. 12th Street, Milwaukee 4, Wis.

ALL SHAPES AND CONTOURS
BOOTS . . . SLEEVES . . . WAY PROTECTORS



▲ For more details circle NED-166 E9 on enclosed inquiry slip ▲

NEW! BAUSCH & LOMB STEREOMICROSCOPES

FEATURING

STEREO ZOOM

CONTINUOUSLY VARIABLE POWER

Here's a completely new optical concept to speed and simplify work requiring 3D views. Just turn the magnification knob and watch the crisp stereo image zoom to the *exact* size you need. Not just a few fixed powers, but *any* power within the wide stereo range. The newest step forward to faster, easier 3D work . . . exclusive with Bausch & Lomb.

Featuring Exclusive POWER POD Design Concept

- Sealed to prevent dust and foreign matter from entering optical system!
- No nosepiece!
- No individual objectives . . . no objectives to change!
- No image jump!
- No image blackout!

Featuring NEW LOW PRICE

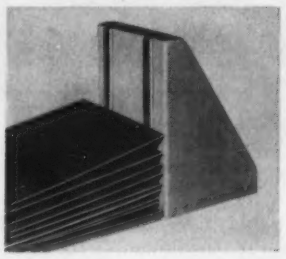
. . . about one-third lower than previous line!

BAUSCH & LOMB SINCE 1853

Write for Catalog D-15
Bausch & Lomb Optical Co.
72741 St. Paul St.,
Rochester 2, N. Y.

▲ For more details circle NED-167 E9 on enclosed inquiry slip ▲

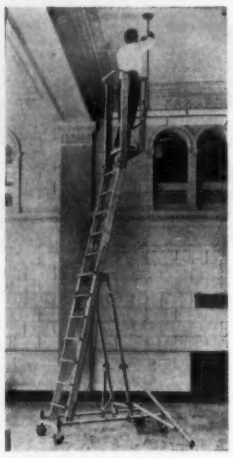
MAGNETIC SHEET FANNER promotes safe steel sheet handling



Indox V oriented ceramic magnet material is employed in this magnetic sheet fanner to make sheet steel handling safe and rapid. When steel sheets are stacked against the device, a magnetic field induced in them creates a tendency to repel each other and fan out automatically. Single sheets can be removed quickly with little danger to hands. Oily sheets that tend to be "sticky" are positively separated. Three fanner sizes are offered. Made by **Stearns Magnetic Products**, 635 S. 28th St., Milwaukee 46, Wis.

▲ For more details circle NED-168 E9 on enclosed inquiry slip ▲

TELESCOPING WORK PLATFORM extends to reach 20-ft heights



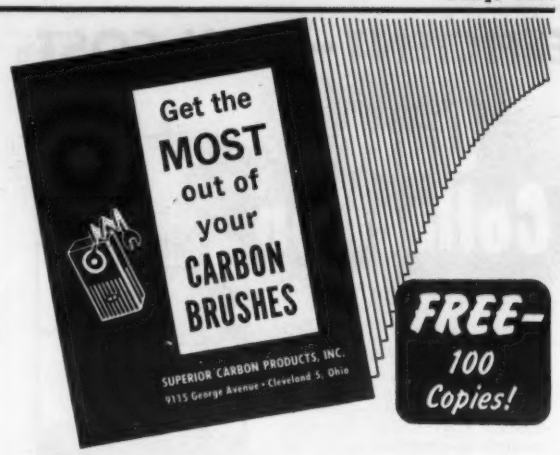
Overhead spot maintenance at heights up to 20 ft is facilitated by this aluminum Elevator - Size Tallescope which is easily set up by one man. Unit will fit inside any normal size elevator or storage closet when folded and can be rolled through doorways. It measures about 6 ft long, 6 ft 7 in. high, and 28 in. wide and unfolds into a telescoping platform extendable to reach heights to 20 ft. It has easy-rolling locking casters. Made by **Up-Right Scaffolds**, 1013 Pardee St., Berkeley 10, Calif.

▲ For more details circle NED-169 E9 on enclosed inquiry slip ▲

GAGE BLOCK SET measures O-ring grooves, keyways

Everyday inspection of standard snap ring grooves, O - ring grooves, and keyways can be made with the 56-R gage block set which was created after a study of actual shop applications. Set provides direct measurement of fractional dimensions down to 1/64 in., measurement by thousandths from 0.020 in., and measurement by tenths from 0.120 in. It is available in all grades up to AA with ±0.000002 in. accuracy. Made by **DoALL Co.**, 254 N. Laurel Ave., Des Plaines, Ill.

▲ For more details circle NED-170 E9 on enclosed inquiry slip ▲



FREE– 100 Copies!

OUR 40th YEAR 1919 - 1959

Here's a NEW bulletin which contains reliable information on the use and maintenance of carbon brushes. Your engineering and maintenance departments will certainly want this valuable reference work. *Suggestion:* Be among the first 100 to request a copy.

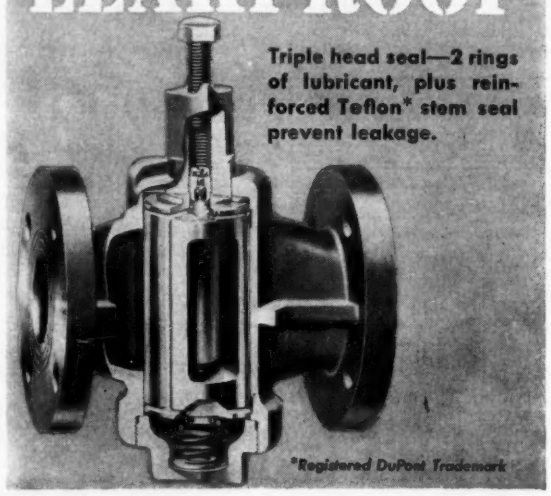
The designation is Bulletin "N-5".

Superior CARBON PRODUCTS, INC.
9115 GEORGE AVENUE • CLEVELAND 5, OHIO

BRUSHES • CONTACTS • SLIP RING ASSEMBLIES
POWDER METAL PARTS • MECHANICAL CARBONS

▲ For more details circle NED-172 E9 on enclosed inquiry slip ▲

In the spots that count . . .
HOMESTEAD® VALVES ARE
LEAKPROOF



Triple head seal—2 rings of lubricant, plus reinforced Teflon* stem seal prevent leakage.

*Registered DuPont Trademark

Controlled, pressurized lubrication system forces full lubricant seal around ports, and over all sealing surfaces—positively prevents sticking. Write today for full details.

h v

HOMESTEAD VALVE MANUFACTURING COMPANY
P.O. Box 84 • Coraopolis, Pa.

▲ For more details circle NED-173 E9 on enclosed inquiry slip ▲

NEW Portable Flow Meter Checks Circuit Efficiency

PATENTS APPLIED FOR

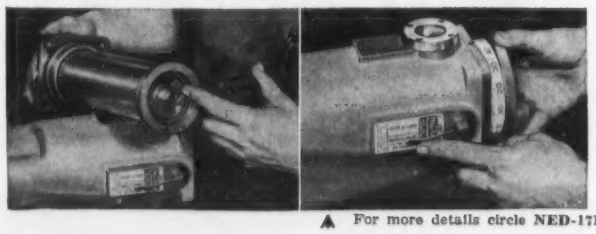
One meter serves many circuits, is unaffected by viscosity change, and requires no piping

Operators of hydraulic circuits containing Tell-Tale® Filters can now *know* the exact degree of efficiency of their hydraulic components by checking flow rates periodically with the new Tell-Tale Flow Meter. The flow rate may be determined at those points in the circuit where Tell-Tale filters are installed (including pressure line filters to 5000 psi). In use, the meter utilizes the filter housing by replacing the filter cartridge. In only a few minutes flow rates are accurately determined under various conditions (i.e. under load and under no load to check pump slippage). No piping work or component removal is needed and the meter reads directly in gallons-per-minute. No conversion tables are necessary because readings are correct regardless of fluid temperatures or viscosities.

To the already impressive advantages of standardizing on Tell-Tale Filters (knowing *when* to clean the filter, easy access to filter cartridge, and positive protection against pump starvation) is now added the ability to know *when* and *where* there is leakage in the circuit. Tell-Tale Fluid Meters are available in five maximum capacities, from 10 to 200 gpm. Meter housings are also available for permanent installations. Write today for more information.

Above: Tell-Tale Flow Meter being placed into Tell-Tale Filter housing (mounted in suction line) to check pump slippage.

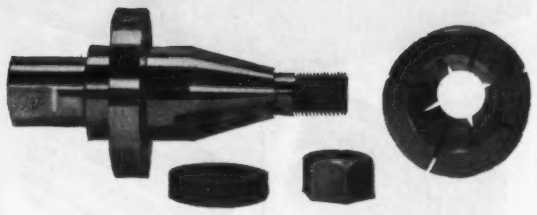
Below: Highly accurate, this meter operates like no other, on a variable-orifice, precise pressure-drop principle. In operating, the orifice (pointed out, below left) in the end of the piston is closed down until the flow is restricted enough to create a predetermined pressure drop that moves the piston forward. Movement is indicated by the when-to-clean pointer on the filter housing. Flow rate is then read from the graduated control wheel, in gallons per minute.



The ROSAEN COMPANY
1776 EAST NINE MILE ROAD • HAZEL PARK, MICHIGAN

▲ For more details circle NED-171 E9 on enclosed inquiry slip ▲

NEW CHAMPION®



high production expanding mandrel

"Lok-Tite" series expanding mandrels with quick-taper design give automatic release of workpiece. They are used between centers, chucked, face plate or rotary table mounted. Threaded nut or drawbar clamped. Precision of .0004" T.I.R. is guaranteed. Twelve arbors with a wide range of sleeves will handle all holes from ½" to 15" I.D.

Send for free catalog giving complete line, specifications and prices

THE WESTERN TOOL & MANUFACTURING CO., INC.
SPRINGFIELD, OHIO FAIRFAX 3-9151

▲ For more details circle NED-174 E9 on enclosed inquiry slip ▲

NEW WRIGHT Electric Chain Hoists

LIGHT—COMPACT—RUGGED—LOW COST

Two capacity ranges as pictured—
Single Chain 300 to 2000 lbs.
Double Chain 3000 to 4000 lbs.

Long Life · Safety · Minimum Maintenance are assured by these sound features:—Wick Oiling of Load Chain gives a working life many times greater than dry chain ...Fewest Moving Parts of any chain-type electric hoist cuts maintenance...Alloy Steel Load Chain is heat-treated for long-wearing surface, with ductile core to resist shock loads—side-pull won't break this flexible chain...Load Wheel Hooks and Hook Couplings are drop-forged alloy steel...Worm and Gear Drives serve as simple, positive Load Brake, and there's a big, efficient Motor Brake, easy to adjust for lining wear. For complete information, write York, Pa., for **Bulletin DH-73.**

Wright Hoist Division
AMERICAN CHAIN & CABLE
ACCO

York, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

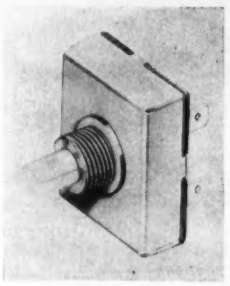
▲ For more details circle NED-175 E9 on enclosed inquiry slip ▲

LINE MARKER
makes 2, 3, and 4-in. wide lines

Up to 500 ft of clean, sharp lines can be made by the Creco line marker without refilling. Straight, curved, or skip lines are made with equal ease. Quickly interchangeable fiber brushes produce 2, 3, and 4-in. wide lines. Paint flow is by gravity to the surface to be marked, with flow controlled at the handle grip. Exacting line control is by a built-in line guide on the stable four-wheel unit. The marker has a 2½-qt cast aluminum body and weighs 10 lb. Made by **Cost Reduction Equipment Co.**, 5200 Chakemco St., South Gate, Calif.

▲ For more details circle NED-177 E9 on enclosed inquiry slip ▲

ROTARY SWITCH
rated 10 amp, 125 v ac



Eight different combinations of 1, 2, or 3 single-pole single-throw switch positions can be selected in Series 777 rotary switch, designed for appliance, vending machine, and industrial applications. Unit has 3/16 in. wide spade terminals with holes for solder connections, a metal cover, and a molded nylon shaft and cam. UL listed, it is rated 10 amp, 125 v ac; ⅓ hp, 125/250 v ac. Made by **Controls Co. of America**, 9555 Soreng Ave., Schiller Park, Ill.

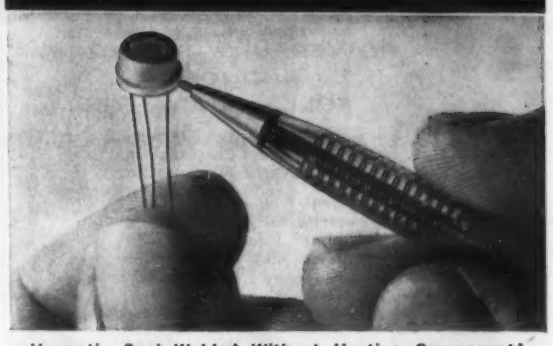
▲ For more details circle NED-178 E9 on enclosed inquiry slip ▲

PLATE HANDLER-SLING HOOK
plate lifting capacity is 3000 lb

Designed for permanent attachment to existing chain or cable slings, the Lev-R-Lok combination plate handler and sling hook has a minimum tensile strength of 140,000 psi. The forged alloy steel unit has a plate lifting capacity of 3000 lb with a five-to-one safety factor in any position. It can be used as a sling hook in direct pick-up or bundling operations. Plate clamping device is always in position for safe moving of sheet steel, beams, plates, or irregular shapes. When the load is lifted, the locking lever engages automatically. Made by **Interstate Drop Forge Co.**, Special Products Div., 4089 N. 27th St., Milwaukee 16, Wis.

▲ For more details circle NED-179 E9 on enclosed inquiry slip ▲

FREE ANALYSIS
OF YOUR SMALL METAL PARTS WELDING PROBLEMS



Hermetic Seal Welded Without Heating Component!

PROBLEM: weld transistor cap to base, make a hermetic seal without heating internal temperature-critical parts.
SOLUTION: A Raytheon Welding Analyst recommended a DC, (stored energy) welding system, using only 6.6 kva compared to the 75-100 kva required for an AC welder to do the same job.
RESULT: 1500 perfectly uniform welds per hour; no damage from heat.

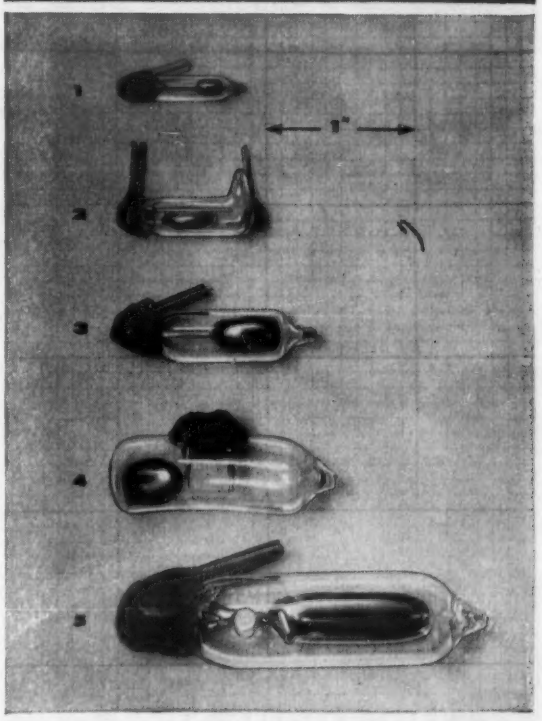
HOW YOU CAN BENEFIT—
If you have a small metal parts joining problem, see your Raytheon Welding Analyst. Write Dept. NT5 without obligation.

RAYTHEON

RAYTHEON MANUFACTURING COMPANY
Commercial Equipment Division, Industrial Products Dept., Waltham, Mass.

▲ For more details circle NED-180 E9 on enclosed inquiry slip ▲

MICRO SWITCH Precision Switches



5 MERCURY SWITCHES
that meet a variety of requirements

1 New Miniature Mercury Switch AS419A1 is 0.90" long, weighs 0.9 gram (without leads)—31 switches to the ounce. Low mass shift facilitates gang mounting. Data sheet 149.

2 New ultra-small super-sensitive mercury switch AS603A1 is the most precise available. Differential angle—.150° max. Data sheet 153.

3 Small general purpose mercury switches, Series AS417B, offer small size with 3 amps. capacity at 115 volts ac or dc. Data sheet 114.

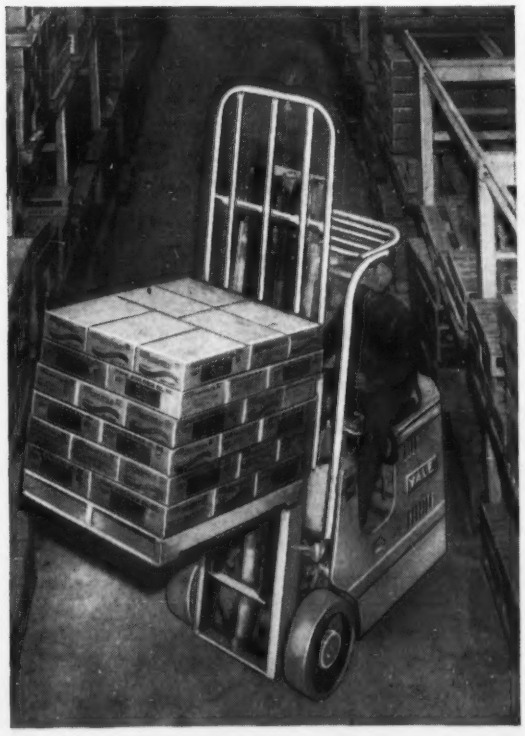
4 Mercury pulse switch AS702B1 for direct one-to-one counting. Pulse action is accomplished by the curved glass tube. Data sheet 118.

5 Medium size general purpose mercury switch AS454A handles loads up to 10 amps., 115 vac. Sealed contacts, low force tilt action. Catalog 90.

MICRO SWITCH . . . FREEPORT, ILL.
A division of Honeywell
In Canada: Honeywell Controls Limited, Toronto 17, Ontario

Honeywell
MICRO SWITCH PRECISION SWITCHES

▲ For more details circle NED-181 E9 on enclosed inquiry slip ▲



SHORT YALE ELECTRIC TRUCK INCREASES PROFITS

Shortest sitdown truck brings extra lifting and travel speeds, ease of operation, into narrow aisles

HIGHEST BATTERY CAPACITY per cube for full 8-hour shift.
EXCLUSIVE YALE CAM-O-TACTOR increases speed and time-delay control—prevents motor overload—provides longer truck lift.
DUAL CASTOR WHEELS provide ease of steering, greater stability.
DEAD-MAN CONTROL automatically shuts off power and applies brakes when operator leaves truck.
EXTRA VISIBILITY is provided through low cowl and open channel design.
EXTRA LOAD STABILITY through 15° tiltback ONLY 68" from front face of forks for 9' 10" aisle operation.

LIFTING SPEED: 50' a minute.
TRAVELLING SPEED: 6½ mph.
CAPACITIES: 3,000–5,000 lbs.

For full information call your Yale representative—or write The Yale & Towne Manufacturing Co., Yale Materials Handling Division, Philadelphia 15, Pa., Dept. KT3-H.

YALE®
INDUSTRIAL LIFT TRUCKS
TRACTOR SHOVELS · HOISTS
YALE & TOWNE

GASOLINE, ELECTRIC, DIESEL AND LP-GAS INDUSTRIAL LIFT TRUCKS • WORKSAVERS
WAREHOUSERS • HAND TRUCKS • INDUSTRIAL TRACTOR SHOVELS • HAND, AIR AND ELECTRIC HOISTS

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Moderate in Price

ALLEN
HEAVY DUTY
PUNCH PRESSES

POWERFUL • DEPENDABLE
ECONOMICAL
FULLY GUARANTEED

Hundreds of different
Model Combinations
1 to 12 ton Capacities

See your Supply Dealer or write for catalog giving complete information, specifications and prices on our line of Heavy Duty Punch Presses.

Thousands in use the World over

ALVA ALLEN INDUSTRIES
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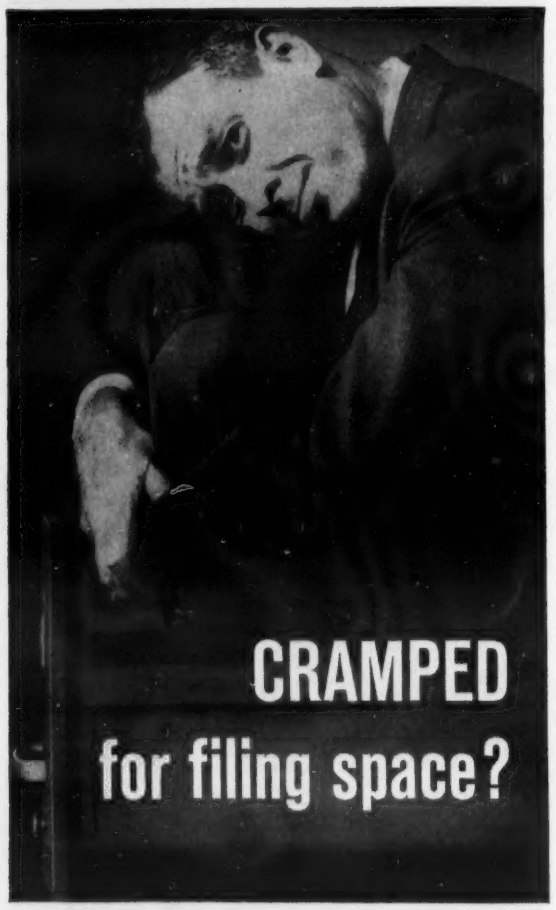


get more with VERTI-FILE

. . . the new, modern system for filing active records. With VERTI-FILE you can file over twice as much material in the same floor area as with a conventional file.

Each unit of VERTI-FILE holds 23½ lineal feet of active records . . . and positions them for faster and more efficient usage. By comparison, a regular 4 drawer file hold 8⅔ lineal feet of records.

So don't be cramped . . . get the modern VERTI-FILE!

For details, phone your local DeLuxe dealer or write us direct.

DELUXE METAL FURNITURE CO., Warren 1, Pa.
A division of the Royal Metal Manufacturing Co.

DM-59-02D

DELUXE

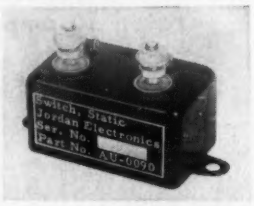
▲ For more details circle NED-183 E9 on enclosed inquiry slip ▲

GLASS-CERAMIC BEARINGS
for corrosive, high temperature use

Various types of metal shafts under operational loads and highly corrosive conditions can be mounted on Pyroceram journal bearings. The high strength glass - ceramic material will neither contaminate nor be affected by most chemical fluids. Hot corrosive acids act as lubricants in some applications. In tests with ferric chloride, nitric acid, sodium hydroxide, molten lead at 700° F, citric acid, and hydrogen peroxide, Pyroceram maintained stable hydrodynamic characteristics, resisting any tendency to weld or score. Made by **Corning Glass Works**, Box 544, Corning, N. Y.

▲ For more details circle NED-184 E9 on enclosed inquiry slip ▲

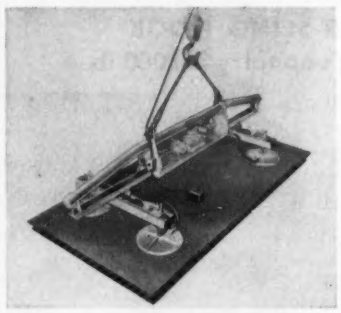
STATIC SWITCH
has 3 microsecond switching time



This 3½-oz, 2 x 1¼ x 1-in. silicon semiconductor static switch will close 400-v circuits with steady currents to 16 amp and surge currents as high as 150 amp. It withstands high shock and vibration and meets most missile requirements. Switch has extremely low signal energy and operates at up to 125° C. Switching time is only 3 microseconds. Made by **Victoreen Instrument Co.**, Jordan Electronics Div., 3025 W. Mission Rd., Alhambra, Calif.

▲ For more details circle NED-185 E9 on enclosed inquiry slip ▲

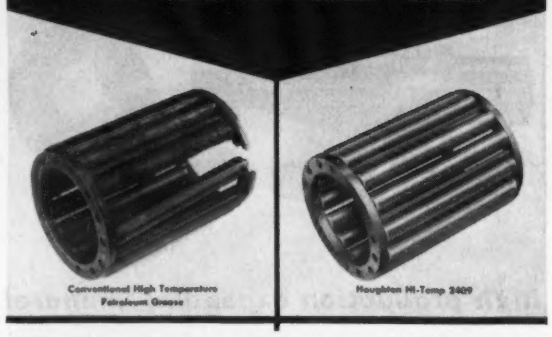
VACUUM SHEET GRAPPLES
four models lift up to 4000 lb



Self-contained Series A vacuum grapples for use with cranes of all types incorporate interlocked controls which provide a safe-to-lift light to indicate adequate vacuum. Each unit consists of a tubular frame which also acts as a vacuum reservoir, an integral vacuum pump and motor, and rotatable cup arms which are adjustable longitudinally to accommodate various sheet or plate lengths. Each of two arms has two vacuum cups which adjust laterally for varying sheet widths. Instant sheet release is by a pushbutton. Four standard models have lifting capacities ranging from 500 to 4000 lb. Made by **Noble Co.**, 1860 Seventh St., Oakland, Calif.

▲ For more details circle NED-186 E9 on enclosed inquiry slip ▲

NOW! 1000°F. LUBRICATION
with NEW HI-TEMP 2409



Hi-Temp 2409 represents a completely new concept in high temperature lubrication. In this new grease, *the thickener provides the lubrication—not the fluid!* No silicones, diesters, soaps, heavy metals or solvents are used.

A clean-burning synthetic fluid is used as a carrier. The grease becomes fluid at 200°F, carrying the lubricant to all bearing surfaces. At 500°F, the synthetic carrier is completely evaporated and a soft film of dry lubricant remains on the bearing capable of withstanding temperatures well above 1000°F.!

If you have a high temperature lubrication problem, write E. F. Houghton & Co., 303 W. Lehigh Avenue., Philadelphia 33, Pa. for your copy of Houghton's new booklet on "Thermal Lubrication".

HIGH TEMPERATURE LUBRICANTS
HI-TEMP 2409 GREASE
HI-TEMP 100, 200, 300 SERIES OIL
COSMOLUBE 101 and 102
HOT FORGING AGENTS
DIE CASTING LUBRICANTS
PORCELAIN MOULD AIDS
products of . . .

E. F. HOUGHTON & CO.
Ready to give you on-the-job service
Philadelphia, Pa. • Chicago, Ill. • Carrollton, Ga.
Detroit, Mich. • San Francisco, Calif. • Toronto, Canada

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PERFORMANCE
WHEREVER
YOU NEED IT!

specifications
- Capacity — 5" rounds, 10" flats
- Height (closed) 30"
- Blade length — 7'5" x 1/2" x 23 ga.
- Blade Speed — 45, 90 and 150 ft. per min.
- Motor — 1/3 H. P., any voltage with 25' ext. cord
- Traction Wheels — solid, rubber tread, 12" dia.
- Built-in blade, cord and tool compartment

JOHNSON model M—Mobile

The right saw in the right place pays for itself—fast! The Johnson Model M metal cutting band saw eliminates all hand cutting. It will cut anything on the job including time and labor costs. Completely portable, mounted on big rubber-tired wheels, it handles easily and it's simple to operate. Preferred by contractors because it's built to last, can be used indoors or out and so economical to buy and operate.

Write today FOR ILLUSTRATED CATALOG OF ALL JOHNSON SAWS AND ACCESSORIES

Johnson MANUFACTURING CORPORATION
Barnes & Taylor Sts. Albion, Michigan

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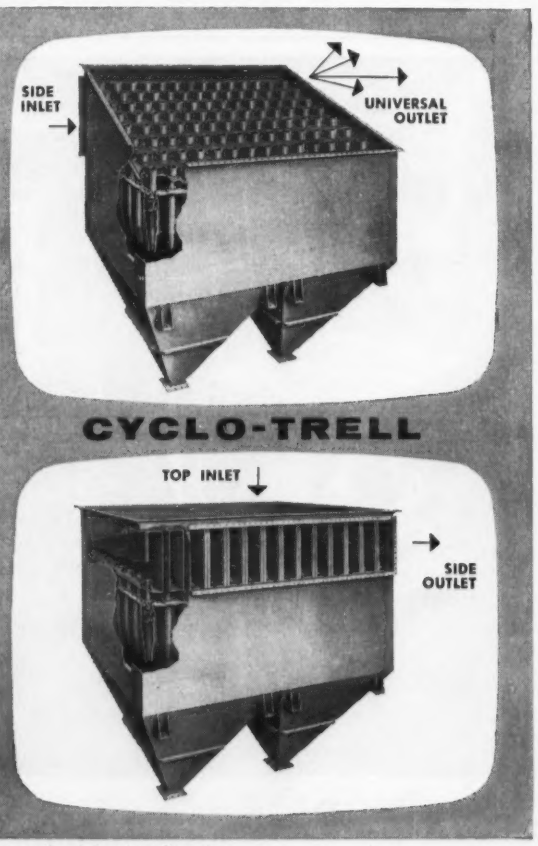
High Efficiency
DUST COLLECTION
at Low Cost

- Greater gas flow per tube
- Fewer tubes per collector
- Flexible designs
- Many applications

Result: Lower total cost for a given capacity and efficiency

WRITE FOR BULLETIN 200

RESEARCH-COTTRELL
Main Office and Plant: Bound Brook, N. J.
Representatives in major cities of U.S. and Canada

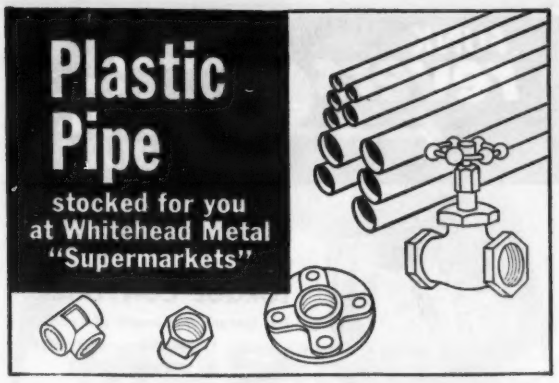


RC159

▲ For more details circle NED-187 E9 on enclosed inquiry slip ▲

Plastic Pipe

stocked for you at Whitehead Metal "Supermarkets"



New applications for plastic pipe are being discovered every day. The advantages of this modern pipe are many—its resistance to corrosion and electrolytic actions, its light weight and comparatively low cost. Whitehead stocks a full line of flexible, rigid and semi-rigid types in all important commercial resins. Sizes range from ⅛" to 6" IPS. Fittings, cements, valves and accessories are available from stock. Whitehead's extensive plastic pipe know-how is at your disposal, too.

Write for detailed literature, mentioning if possible, the use you had in mind.

WHITEHEAD METALS, INC.

▲ For more details circle NED-190 E9 on enclosed inquiry slip ▲

ALUMINUM

Tread Plate

DIAMOND OR ABRASIVE

stocked for you at Whitehead Metal "Supermarkets"

Plant Safety Engineers are finding Aluminum Tread Plate the answer to flooring problems. Light in weight and corrosion resistant, there are two types available. The conventional diamond pattern is used for normal protection, and abrasive non-skid plate provides maximum gripping power under oily, wet or dry conditions.

Both plate types are available in 48" by 144" sheets in three thicknesses—0.125", 0.190" and 0.375". Write for the illustrated descriptive booklet, which gives additional information as well as installation suggestions.

WHITEHEAD METALS, INC.

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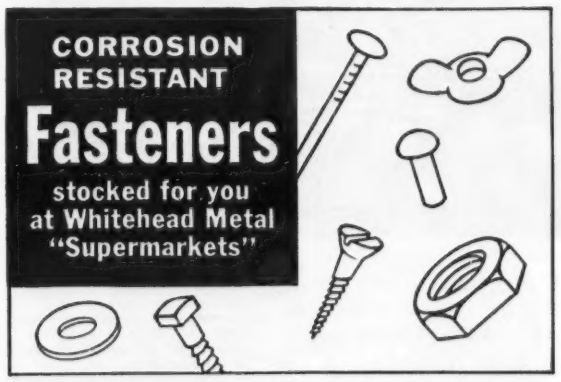
CORROSION RESISTANT

Fasteners

stocked for you at Whitehead Metal "Supermarkets"



Monel? Inconel? Nickel? Aluminum? Brass? Bronze? Copper? Silver Bronze? Stainless Steel? The "special" fastener you need is probably **standard** at Whitehead.

Everything in fasteners from boat nails to tenter hooks is stocked at Whitehead. Why bother checking around for who makes some particular type of fastener? Call Whitehead and it's a safe bet it's already stocked for you. Flocks of fasteners like tacks, pins, rivets, nails, staples, bolts, hooks and clips. For a quick check for the right fastener, use Whitehead's handy wall chart, yours for the asking.

WHITEHEAD METALS, INC.

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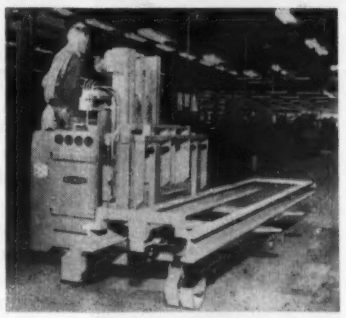
FOUR-DIRECTIONAL TRUCK transports and stacks up to 3000 lb



Loads up to 16 ft wide can be transported and stacked in 8-ft wide aisles when the four-directional Reach - Fork industrial truck is traveling sideways. It also tiers conventionally in 6-ft aisles. The 3000-lb capacity vehicle is spark - enclosed to permit operation in hazardous areas. Auxiliary lift of 18 in. is incorporated for ceiling-high stacking with minimum collapsed height. Made by **Raymond Corp.**, 41-173 Madison Ave., Greene, N. Y.

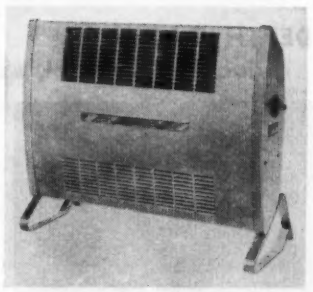
▲ For more details circle NED-193 E9 on enclosed inquiry slip ▲

VISE & LATHE JAW PADS held in place by Alnico magnets

Magnapads for use on vise and lathe chuck jaws are made of soft metal that conforms to the contour of the stock, gripping it fast without marring. G-E Alnico magnets hold them in place on the jaws. Vise pads (left) from 3 to 5 in. wide are made of lead, aluminum, and soft or hard brass. Lathe chuck jaw pads (right) are offered in soft copper with attached magnets in 45 and 90-degree shapes. Made by **Miller Pattern & Mfg. Co.**, 3320 Bay Rd., Saginaw, Mich.

▲ For more details circle NED-194 E9 on enclosed inquiry slip ▲

CONVECTION HEATERS are wall mounted or self-standing



Heating elements in the Type DA electric convection heater are metal enclosed, cannot break or shock, and are impervious to moisture. All models have combination brackets for floor or wall mounting and a built-in three-heat switch. Warmed air is convected up and out into the room at low velocity through a close-mesh grille. Three models are available: DA-15, rated 1500 w at 120 v; DA-20, rated 2000 w at 208 or 240 v; and DA-30, rated 3000 w at 208 or 240 v. All are 21 in. high by 8¾ in. deep. Highest wattage model is 33¼ in. long; the other two are 24¾ in. long. The 120-v model is also offered with a 6-ft cord and plug and is free-standing for portable use. Made by **Edwin L. Wiegand Co.**, 7500 Thomas Blvd., Pittsburgh 8, Pa.

▲ For more details circle NED-195 E9 on enclosed inquiry slip ▲

STAINLESS, MONEL AND ALUMINUM

Welding Fittings

stocked for you at Whitehead Metal "Supermarkets"

A welded piping system is permanently leak-proof, has greater strength and longer life. The cleaner system, with better flow characteristics coupled with a proper choice of alloy provides product purity and low maintenance. Forged welding fittings are stocked in IPS sizes from ½" to 12" for Schedule 5S, 10S, 40S and 80S pipe. All conventional shapes are on hand including elbows, bends, tees, reducers, caps, etc.

Welding fittings are also stocked in Nickel and Inconel. Literature available.

WHITEHEAD METALS, INC.

▲ For more details circle NED-197 E9 on enclosed inquiry slip ▲

DISSIMILAR METAL

Welding Wire

stocked for you at Whitehead Metal "Supermarkets"

An effective solution to the problem of joining dissimilar metals is International Nickel Company Inco-Weld "A" Wire. Developed expressly for this purpose, and introduced at the 1958 Welding Show, Inco-Weld "A" Wire is a single product for the inert gas welding of most combinations of dissimilar alloys. Inco-Weld "A" Wire is on hand at all Whitehead Service Centers in five standard diameters.

On hand, too, at each Whitehead Service Center, is a wealth of welding know-how and experience at your service. Write for technical literature.

WHITEHEAD METALS, INC.

▲ For more details circle NED-198 E9 on enclosed inquiry slip ▲

Rod, Sheet and Tube

stocked for you at Whitehead Metal "Supermarkets"

Just one shopping stop and you get delivery of any corrosion resistant metal in the form and quantity tailored to your fabrication needs.

Read off your shopping list: rods—you can get them round, hexagonal, rectangular, square . . . sheets—you can have hot or cold rolled in a host of alloys . . . tubes and pipes—come round, rectangular or square. Everything stocked in a wide variety of sizes for you to select from . . . just look at some of the alloys: aluminum, brass, copper, phosphor bronze, leaded brass, nickel, inconel. They're products of such leading manufacturers as: Alcoa, Inco, Anaconda, Superior or Trent Tube, Lukens. No matter what type of corrosion resistant material you need (plastics, too) Whitehead has the right materials for you. And, if you're uncertain as to just which metal is best for you to use, Whitehead engineers will be glad to work with you to get the most out of what you buy.

WHITEHEAD METALS, INC.

303 West 10th Street • New York 14, N. Y.

Other Offices and Warehouses:

PHILADELPHIA • BUFFALO • HARRISON, N. J.
CAMBRIDGE, MASS. • SYRACUSE • BALTIMORE
ROCHESTER • WINDSOR, CONN.

▲ For more details circle NED-196 E9 on enclosed inquiry slip ▲

Save time and money—buy HALLOWELL steel collars

43 stock sizes from 1/8 to 3 in. bore

Choice of knurled cup point or Nylok* self-locking set screws

Standard HALLOWELL solid steel collars are now available with two types of socket set screws: UNBRAKO self-locking knurled cup point or, where locking action is required with a plain cup or flat point or against extra hard shafts, UNBRAKO socket set screws with the Nylok self-locking feature. All collars size marked. Also solid and split cast iron collars in bore sizes up to 4 15/16 in. See your HALLOWELL distributor or write for Bulletin 868. Hallowell Collar Division, STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

*T.M. Reg. U.S. Pat. Off., The Nylok Corporation

sps Jenkintown • Pennsylvania

Standard Pressed Steel Co. • The Cleveland Cap Screw Co. • Columbia Steel Equipment Co. • National Machine Products Co. • Nutt-Shel Co. • SPS Western • Standco Canada Ltd. • Unbrako Socket Screw Co., Ltd.

▲ For more details circle NED-199 E9 on enclosed inquiry slip ▲

Prevent pressure damage with the IEC gage gard

GG-1 GG-2

Installed between a pressure source and a sensitive instrument, IEC's Gage Gard will

- **CUT OFF, preventing pressure increase at gauge or manometer whenever pressure exceeds the cut-off point. Models are available with cut-off ranges from 20" water to 9000 PSIG.***
- **HOLD CLOSED up to 10,000 PSIG, regardless of cut-off setting.**
- **REOPEN when pressure drops to 2% below cut-off point.**
- **REPEAT within 1% of scale.**

Cut-off pressure may be factory-set and sealed if you wish. You can adjust and reset at any time, however.

Both aluminum and stainless steel bodies are available in all models.

Write for Bulletin 546G for complete details and prices.

**For low-pressure protection — down to minus 15 PSIG — ask about the Gage Gard Jr. Bulletin 547G.*

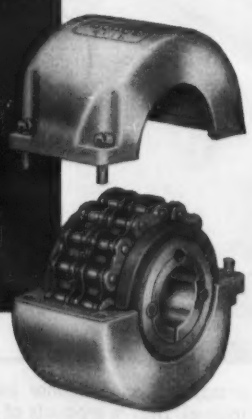
INDUSTRIAL ENGINEERING CORPORATION

530 E. Woodbine, Louisville 8, Kentucky

Designers, engineers, and manufacturers of hydraulic and electronic test equipment, consoles, panels, etc.

▲ For more details circle NED-200 E9 on enclosed inquiry slip ▲

NOW! TAPER-LOCK CHAIN COUPLINGS



Off the shelf... No reboring

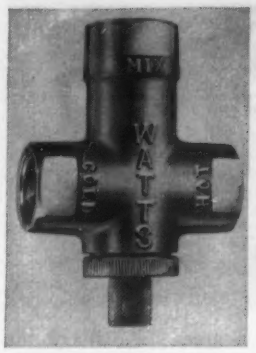
New Dodge Chain Couplings (with new line of aluminum covers, too!) provide strong, positive, compact coupling of shafts, with accomodation for usual slight misalignment. Like Dodge Flexible and Rigid Couplings, the new Chain Couplings employ the famous Taper-Lock Bushings, available in desired sizes from distributors' stocks—no reboring required. For detailed information write now for Bulletin A044.

Dodge Manufacturing Corporation, 2100 Union St., Mishawaka, Indiana

DODGE of Mishawaka, Ind.

▲ For more details circle NED-201 E9 on enclosed inquiry slip ▲

TEMPERING VALVES have sensitive thermostats



Three adjustable tempering valves feature a powerful and sensitive thermostat, a bronze body, and leakproof O-rings. Model 70T with threaded connections is available in 1/2 and 3/4-in. sizes. The 3/4-in. No. 70 with sweat connections and the previously announced 1/2-in. sweat connection model complete the line. A slotted seal cap doubles as a screwdriver for adjusting the valves. Made by Watts Regulator Co., 10 Embankment Rd., Lawrence, Mass.

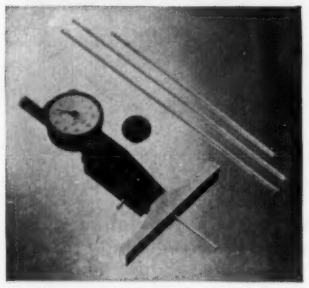
▲ For more details circle NED-202 E9 on enclosed inquiry slip ▲

STROKE & ROTARY COUNTERS sealed against dust and dirt

Designed for high speed, light duty application, the D Series of counters features improved mechanical action and a better cover seal against dust or dirt. Counters are adaptable as an accessory or original equipment. Speed is up to 400 counts per minute. Three, four, five, or six figure units are offered for right or left drive. Either stroke models or rotary models in both spur gear end drive or right angle worm drive are available. Drive, pinion, and reset shafts are stainless steel. Made by Durant Mfg. Co., 1922 N. Buffum St., Milwaukee 1, Wis.

▲ For more details circle NED-203 E9 on enclosed inquiry slip ▲

DEPTH GAGE locates internal, external grooves



Wide variety of difficult groove measurements can be made with this double-acting depth gage. It accurately determines the location of either internal or external grooves. A dial indicator measures the travel of a footed rod to obtain both the location and width of the groove in one operation. A release pin permits measuring in either direction from the measuring anvil. Straight and footed rods of various lengths increase the useful range. Instrument is used as an ordinary depth gage with the straight rods. Made by Mueller Gages Co., 1052 N. Allen Ave., Pasadena, Calif.

▲ For more details circle NED-204 E9 on enclosed inquiry slip ▲

NYLON KOOLSHIELD FOSTORIA LOCALITE

Industry's Favorite Cost-Saving Seeing Tool

***Cool* 100-WATT LAMP ILLUMINATION**

A marvelous accessory that snaps over reflector for positive coolness to the touch when using 100-watt lamp.

$1.02 ea. in Std. Pkg. of 4. Fits all old and new model Localite half shade reflectors.

★ Equipped with marvelous new collar-disc arm joints

MODEL 55-BH-701 **$8.03 EACH** in Std. Pkg. of 4.

Finest Seeing Tools Ever Designed

FOR MACHINE TOOLS, ASSEMBLY, INSPECTION

Millions in use for fast, accurate, safe seeing. Frictional arm and collar-disc joints give flexibility of a thousand positions to direct light exactly as wanted. Rugged construction, heavy duty socket, Levolier switch, universal base.

WRITE for complete catalog of Localite Models for every industrial need.

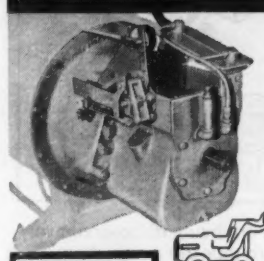
THE FOSTORIA PRESSED STEEL CORPORATION, FOSTORIA, OHIO

Localites are available through wholesalers everywhere.

LOCALITE fostoria for Light ON the Job

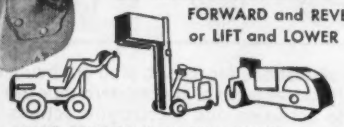
▲ For more details circle NED-205 E9 on enclosed inquiry slip ▲

FUNK revers-O-matic DRIVES



HYDRAULIC CONTROLLED REVERSING CLUTCH with TORQUE CONVERTER

For Instant Movement of Loads FORWARD and REVERSE or LIFT and LOWER



Other Funk Products

Funk Standard Power Take-Off

Funk Gear Reduction

FUNK REVERS-O-MATIC DRIVES are years ahead in engineering. A single throttle lever moved forward or reverse engages hydraulically actuated clutch and instantly changes your speed and direction of travel. No direct connection between power and load to stall your engine. The torque multiplies power smoothly, reducing maintenance.

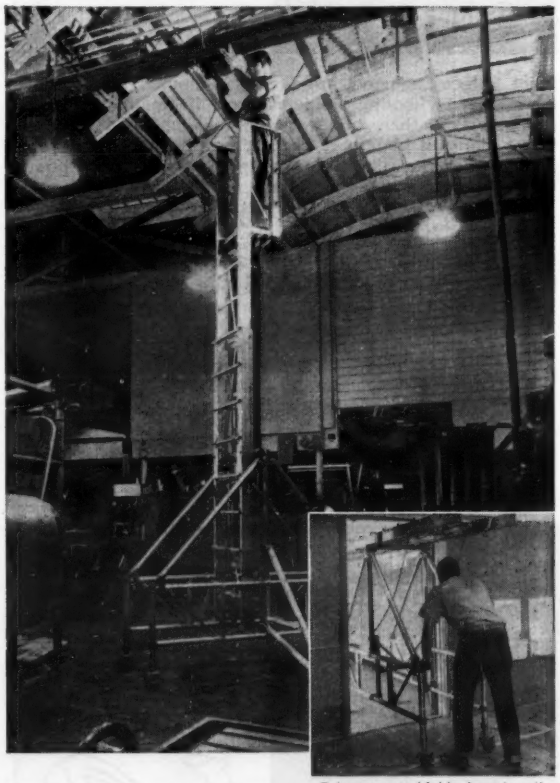
Investigate FUNK REVERS-O-MATIC DRIVES now. Our engineers will be glad to adapt or design equipment for your specific needs.

FUNK MFG. CO. Box 577-C COFFEYVILLE, KANSAS

▲ For more details circle NED-206 E9 on enclosed inquiry slip ▲

UP-RIGHT ANNOUNCES A NEW WORK PLATFORM TALLESCOPE

...telescoping aluminum structure for overhead spot maintenance



Telescopes and folds down to roll through doorways, under trusses, pipes and conveyors.

Separates easily into 3 components for convenient storage or transportation.

Lightweight, rapidly assembled by one man. Extends instantly for reaching heights up to 30 ft. Adjustable legs for uneven floors or stairways. Only 29" wide for rolling through congested areas.

FOR **TALLESCOPE CIRCULAR** WRITE TO **UP-RIGHT SCAFFOLDS**

DEPT. 175 • 1013 PARDEE ST., BERKELEY, CALIF.

Manufactured by UP-RIGHT SCAFFOLDS

▲ For more details circle NED-207 E9 on enclosed inquiry slip ▲

Just how WATERPROOF DO YOU WANT YOUR PAPER?

MOSINEE

will make it to your EXACT SPECIFICATIONS

for complete information write

MOSINEE PAPER MILLS COMPANY
Mosinee, Wisconsin

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SPITFIRE Grinding Discs

GREATER SAFETY MARGIN! Revolutionary new Aluminum Oxide Discs feature built-in barrier protection plus fully reinforced edges to eliminate limpness and excessive grit loss. Spitfire Discs provide 25% greater safety margin on "snagging" and "hang up" operations.

FASTER, COOLER CUTTING! Sharp, uniform cutting action makes full use of disc surface . . . speeds up grinding and sanding even under toughest conditions. Cooler running to add extra life, longer production performance.

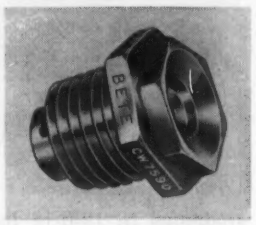
A TYPE AND SIZE FOR EVERY JOB! Available in "Special," "Standard" and "Heavy Duty" discs for everything from light gauge metal sanding and polishing to high speed finishing operations. Grit sizes 16 through 180. Disc diameters include 6", 7", 8" and 9⅛" with ½" and ⅞" arbor holes.

Write for "Spitfire" folder!

JEWEL BRAND
COATED ABRASIVES
Belts • Rolls • Sheets • Discs • Specialties
ABRASIVE PRODUCTS, INC.
South Braintree 85, Massachusetts

▲ For more details circle NED-209 E9 on enclosed inquiry slip ▲

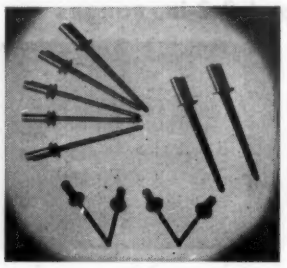
SPRAY NOZZLE can be used in limited space



This CW7590 nozzle is suited for spray cooling of molds, washing, and similar purposes, especially where space is limited. It has whirl chamber at the back end of the nozzle and the orifice recessed into the nozzle body. Apex of the spray cone is actually flush with the mounting surface. Unit has ¾-gpm flow rate at 40 psi and 90-degree spray angle. The ¼-in. male pipe thread permits mounting in flat surfaces or on pipe headers. Made by **Bete Fog Nozzle, Inc.**, 309 Wells St., Greenfield, Mass.

▲ For more details circle NED-211 E9 on enclosed inquiry slip ▲

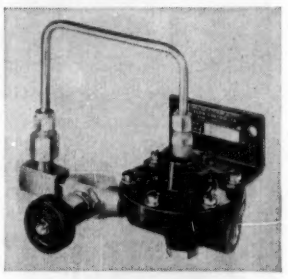
BLIND RIVET sets and seals in one step



Air and watertight at pressures as high as 500 psi, the Imex blind rivet is also highly resistant to vibration. It is set with standard Pop rivet tools. Sealing is obtained automatically when set, as the head of the Imex rivet mandrel is encased within the rivet and seats tightly against a shoulder formed during the setting. Types with short break and long break mandrels are made in 0.125 and 0.187-in. diameters in aluminum. Made by **United Shoe Machinery Corp.**, Pop Rivet Div., West Medway, Mass.

▲ For more details circle NED-212 E9 on enclosed inquiry slip ▲

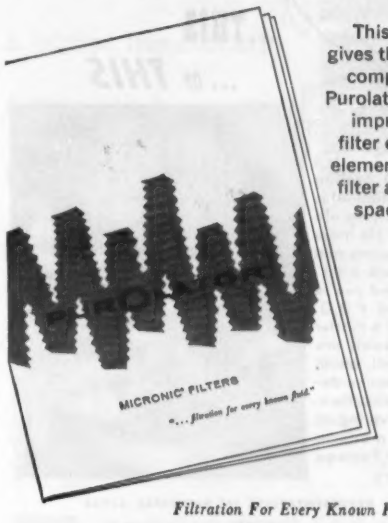
FLOW CONTROLLERS for low liquid or gas flows



Liquid flows as low as 2 cc per minute or air flows as low as 30 scc per minute can be controlled by the Model 63L low flow controllers. They operate on the power of line pressure to maintain a constant differential, regardless of line pressure changes, across a needle valve, capillary, or other restrictor. Applications are in gas chromatography, purge systems, pilot plants, and process blending. Both brass and Type 316 stainless steel constructions are offered. Several factors, including specific gravity of the fluid, and operating pressures determine the rangeability (500:1 or higher are possible) and minimum controllable flow. Made by **Moore Products Co.**, H & Lycoming Streets, Philadelphia 24, Pa.

▲ For more details circle NED-213 E9 on enclosed inquiry slip ▲

New design information on Purolator Micronic® filters



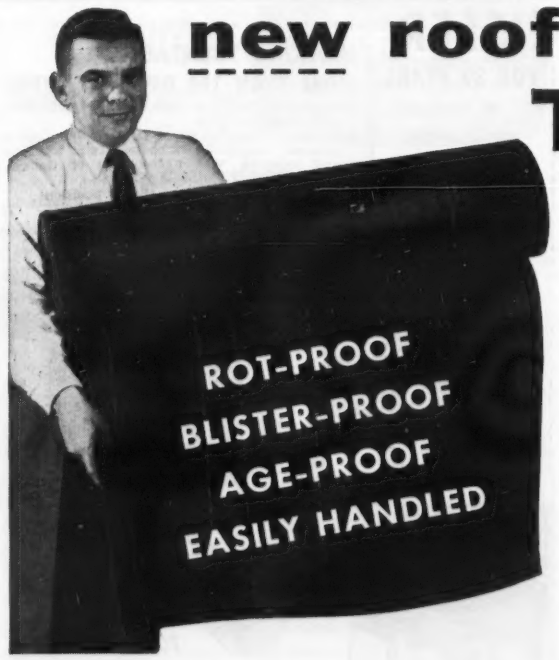
This new, free bulletin gives the design engineer complete basic data on Purolator's phenolic resin impregnated, cellulose filter elements. Micronic elements pack maximum filter area into minimum space (up to ten times more than other types); do not channel; are waterproof and warp-proof; have rigidly controlled porosity.

For your copy, write to Dept. MCI-55.

Filtration For Every Known Fluid

PUROLATOR PRODUCTS, INC.
RAHWAY, NEW JERSEY AND TORONTO, CANADA

▲ For more details circle NED-214 E9 on enclosed inquiry slip ▲



new roofing material... TROPIGLAS

New development cuts roof repair cost to little more than material cost!

Tropiglas is the biggest roofing advance in 50 years! Ageless glass fibres make it tough, flexible, durable, light weight—it imposes no excess load on roof. Lies flat instantly—no waiting. Applied by unskilled labor, Tropiglas *embeds* in Tropical Cold Process Roofkoter, forms a tight, one-layer surface that can't blister, rot or wrinkle. Use it for all roof repair and reconditioning, for a fast, low-cost, longer-lasting job.

FREE! Write for complete information on how TROPIGLAS does a better roof reconditioning job at lower cost.

OUR 76th YEAR

TROPICAL PAINT COMPANY • 1124-1276 W. 70th, Cleveland 2, Ohio
Heavy-Duty Maintenance Paints Since 1883 • DIVISION OF PARKER RUST PROOF COMPANY

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THE FIRST LIQUID HARDENER EVER MADE FOR CONCRETE FLOORS

To give hardness-in-depth!

LAPIDOLITH

Not a coating
Not a film... but a hardener that acts below the surface to become an integral part of the concrete floor

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Company_____
Address_____
City_____ Zone____ State_____

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HOW MODERN IS *YOUR* METHOD?

...THIS

... or *THIS*

• The modern P.D.Q. tooling method completely eliminates the time lost in changing old fashioned type tools. No more "sweating out" loosening and tightening the draw bolt. A 60° turn of the lock nut and you're ready for another tool. P.D.Q. tool changes are only a matter of seconds . . . and tools are available in very small, small, medium and large series depending on the application. Write for literature covering all the advantages of modern, cost cutting P.D.Q. (Portage Double Quick) tooling.

REPRESENTATIVES IN PRINCIPAL CITIES

PORTAGE Double-Quick TOOL CO.

1043 SWEITZER AVENUE • AKRON 11, OHIO

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FOR BETTER REFLECTORS ...USE ALUMINUM

For the best reflectors in lighting fixtures, specify Alcoa® Lighting Sheet. This lightweight, easy-to-handle sheet is made in both diffuse and specular reflecting surfaces and it is available through Alcoa's Jobbing Division and Alcoa Distributors. It has the famous Alzak® finish, Alcoa's unique treatment that defies corrosion and produces excellent, lasting reflectivity. For more information, call your nearest Alcoa sales office.

FREE TO MANUFACTURERS. In addition to such "standard" items as lighting sheet, Alcoa's Jobbing Division has the world's finest aluminum fabricating facilities for subcontracting to your order any aluminum components for anything you make. A sixteen-page booklet describes how these facilities can save you tooling-up costs, lighten your production load and generally cost less than if you shouldered the whole job yourself. For your copy, write or clip and mail the coupon.

ALCOA ALUMINUM

Your Guide to the Best in Aluminum Value

For Exciting Drama Watch "Alcoa Theatre," Alternate Mondays, NBC-TV, and "Alcoa Presents," Every Tuesday, ABC-TV

ALUMINUM COMPANY OF AMERICA
1866-E Alcoa Building, Pittsburgh 19, Pa.

Please send my free copy of *Alcoa Aluminum Fabricating Facilities.*

NAME_____ TITLE_____

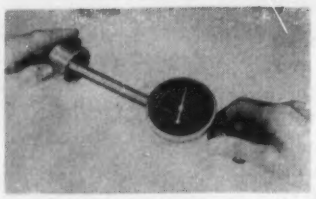
COMPANY_____

ADDRESS_____

CITY_____ ZONE_____ STATE_____

▲ For more details circle NED-217 E9 on enclosed inquiry slip ▲

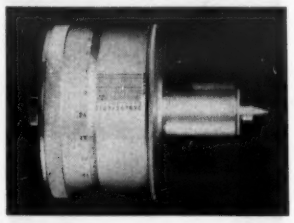
TORQUE INDICATOR
checks radial friction of bearings



This Radial Friction Torque Tool simplifies checking radial friction in assembled bearings, pillow blocks, turnbuckles, and eccentric bearings. Its 2⅝-in. OD balanced dial is graduated in 12-0-12 lb-in. Both bezel and dial can be rotated for setting zero at the at-rest position of the pointer. Plug is ground to size to suit application, ranging from ¼ to 1 in. OD. Tool is only 7¾ in. long, including black bolding knob, and weighs 7½ oz. Made by **Apco Mossberg Co.**, 1002 Lamb St., Attleboro, Mass.

▲ For more details circle NED-218 E9 on enclosed inquiry slip ▲

ULTRA-PRECISE MICROMETER
offered in 0-1 and 0-2-in. ranges



Accurate to ±0.000010 in. per in., this ultra-precise micrometer has a 4-in. diameter barrel for ease of reading. Two standard size ranges are 0 to 1 and 0 to 2 in. It can be made to individual requirements with graduations arranged for reading right or left, normal or reverse, on the satin-finish thimble and barrel. Two similar models have an accuracy of ±0.000015 and ±0.000020 in. per inch. Made by **Sheffield Corp.**, Box 893, Dayton 1, Ohio.

▲ For more details circle NED-219 E9 on enclosed inquiry slip ▲

VARIABLE SPEED STIRRER
has 18-270 and 150-2250 rpm speeds

Stepless, mechanically adjusted speed regulation is afforded in this Type CA-2 Standco variable speed stirrer. Unit has two motor shafts with respective speed ranges of 18 to 270 rpm and 150 to 2250 rpm. Both shafts are hollow for quick stirring rod adjustment to any height. Sparkproof, enclosed, air-cooled induction motor is without brushes or commutators. Torque increases with decreasing speed, providing power when it is needed. The three-jaw chrome-plated chuck accommodates up to 19/64 in. diameter stirring rods. Made by **Herman H. Sticht Co.**, 27 Park Place, New York 7, N. Y.

▲ For more details circle NED-220 E9 on enclosed inquiry slip ▲

Wherever you use compressed air...

...just PLUG IN THE POWER

with the HANSEN Series RL QUICK-CONNECTIVE Ring-Lock Coupling

- Tough . . . compact . . . smaller . . . lighter.
- Quick connection – and disconnection.
- Instant automatic flow or shut-off.
- Handles any job in your shop using ¾" to ⅛" connections—from the air line to the air tool.
- Locking ring provides positive lock . . . tight fit. Equipped with automatic sleeve lock.
- All Series 2-RL Sockets and Plugs are interchangeable – likewise all Series 3-RL Sockets and Plugs. Eliminates any need for various size couplings in hook-up – makes it easy to keep stock of parts in balance—holds inventories to a minimum.

Handles More Air... with Minimum Pressure Drop

Write for the Hansen Catalog.. a ready reference when you want information on couplings in a hurry.

Representatives in Principal Cities

THE HANSEN MANUFACTURING COMPANY

4031 WEST 150th STREET • CLEVELAND 35, OHIO

▲ For more details circle NED-221 E9 on enclosed inquiry slip ▲

● **Save gallons of paint** on every big job. The GRACO HYDRA-SPRAY virtually eliminates overspray, bounceback and excessive use of solvents. You can put up to 50% *more* paint on the work, *where it belongs.* A combination of high fluid pressure and small nozzle creates fine material breakup *without use of heat—without atomizing air. And there's no pressure on the container.*

Save time too, because HYDRA-SPRAY permits a heavier paint film—often eliminating a second coat. Less masking needed . . . clean-up time is reduced. Operators work more efficiently in cleaner atmosphere. They like the lightweight equipment . . . *only one hose* . . . air hose is eliminated.

LOW OPERATING COST. Smaller compressor required. Less air used. No heaters. No exhaust units. Reduced wear and maintenance on all equipment.

WRITE FOR NEW BROCHURE

GRACO

GRAY COMPANY, INC.
57 Graco Square
Minneapolis 13, Minnesota

▲ For more details circle NED-222 E9 on enclosed inquiry slip ▲

MEASURE YOUR SAVINGS ... WITH *Speedline* FITTINGS

Write for FREE Speedline Catalog TODAY.

This 3" Speedline Tee gives you 3¼" "*more length*"—at no extra cost! Longer length feature of *all* Speedline fittings also . . .

- **Lets You Select *Any* Type Joint to Meet Assembly Needs**
- **Provides More Clearance for Welding and Aligning**
- **Speeds Installation of the Most Complex System**

GET THESE COST SAVING ADVANTAGES OF SPEEDLINE FITTINGS WITH TANGENTIAL FEATURE AT YOUR PLANT . . . DESIGNED FOR USE WITH *ECONOMICAL* LIGHT WALL STAINLESS STEEL PIPE.

903

Distributors are located in principal cities from coast to coast

Speedline® Reg. T.M. STAINLESS STEEL FITTINGS manufactured by

HORACE T. POTTS CO. 532 E. Erie Ave., Phila. 34, Pa.

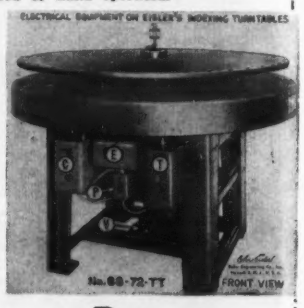
▲ For more details circle NED-223 E9 on enclosed inquiry slip ▲

EISLER FOR 39 YEARS

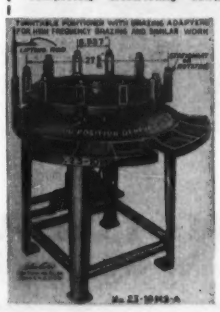
We supply any part or complete equipment . . . Special turntables made to order

INDEXING TURNTABLES MORE THAN 100 DIFFERENT TYPES

- FOR WELDING • BRAZING • SOLDERING • SPRAYING
- GLASS INSULATOR MELTING AND GLASS GLAZING with rotating stations and indexing with barrel cam or Geneva gear action.
- For work transferring, tilting positions. . Motorized or hand operated.



Eisler Indexing Turntables are completely electrically controlled



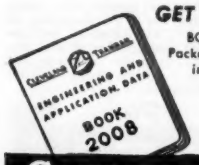
AND CAMS MADE TO YOUR SPECS!

"Ask for catalog 88-57"

EISLER ENGINEERING CO., INC.
740 SO. 13th ST., NEWARK 3, N. J
Charles Eisler, Jr., President

▲ For more details circle NED-224 E9 on enclosed inquiry slip ▲

Many Cleveland Tramrail rack carrier systems are cutting costs by eliminating rehandling. Because of the smooth overhead track and easy rolling ball-bearing carriers, long train loads of materials can be pushed by one man with little effort. Carrier wheels are available for operation in high-temperature ovens. Systemmatize with rack carriers and save on floor wear.



GET THIS BOOK! BOOK No. 2008 Packed with valuable information...

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6604 East 285th St., Wickliffe, Ohio

CLEVELAND TRAMRAIL

▲ For more details circle NED-225 E9 on enclosed inquiry slip ▲

NEW *FULL VIEW*® ROTAMETER

Interchangable metering tubes snap in and out in seconds! It's that easy to change range or to service the new Brooks Series 1112 Full-View Rotameters.

A stainless steel leaf spring (completely isolated from the process fluid) holds the tube perfectly in position, yet allows removal with just a simple up-and-out movement. No tools necessary.

Special O-ring construction and tube adapter assemblies make this time-saving convenience possible . . . permit you to interchange up to four different size metering tubes in a single case by merely changing adapters.

The advantages are obvious: easier maintenance in the line; fewer parts on the stock shelf.

Write For Design Specification Sheet SS-111-2

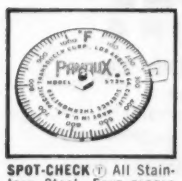
BROOKS ROTAMETER CO.
559 K STREET Lansdale, Pa.
Specialists in Complete Rotameter Instrumentation

S.A. 1953

▲ For more details circle NED-226 E9 on enclosed inquiry slip ▲

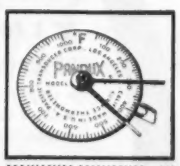
PANDUX® THERMOMETERS CHECK *any* SURFACE TEMPERATURE!

Write for **FREE** temperature conversion chart.. C to F and F to C O°K. to 5612°F.



SPOT-CHECK ® All Stainless Steel. Four ranges to 1000°F. With magnet $4.00

SURFACE Three Ranges, minus 50°F. to 370°F. Also in Centigrade. With magnet..... $6.75



MAXIMUM-MINIMUM All Stainless Steel. Four ranges to 1000°F. With magnet..... $6.75

HI-HEAT Two Built-In Magnets. 50°F. to 750°F. $6.75

MAXIMUM - MINIMUM RECORDING With replaceable Chart. Minus 50°F. to 250°F..... $19.50

SURFACE PYROMETER 10" Surface Tip. Two ranges to 2300°F. Complete..... $57.00

OTHER PANDUX THERMOMETERS: Stainless Steel Stem Dial Type regular and with maximum-minimum hands; Glass Mercury Immersion Types for production and laboratory.

Order through your dealer or write factory for complete catalog ND-59
Phone GRanite 8-1134

PACIFIC TRANSDUCER CORP. 11836 W. Pico Blvd. Los Angeles 64, Calif.

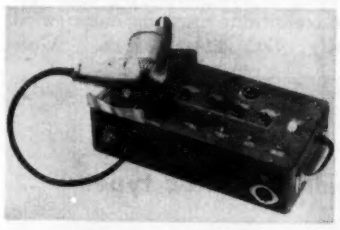
▲ For more details circle NED-227 E9 on enclosed inquiry slip ▲

VARIABLE SPEED BELTS
replacement units in range of sizes

Line of replacement VS belts is available in a wide range of sizes for all popuar makes and models of variable speed drives. They are available for equipment made by Allis-Chalmers, Boston Gear Works, Dodge, Gerbing, Llewellen, Lovejoy, Reeves, and a number of other companies. Full range of sizes is included, along with a belt interchange guide, in Catalog V-173-B. Made by **Browning Mfg. Co.**, 1940 Browning Dr., Maysville, Ky.

▲ For more details circle NED-228 E9 on enclosed inquiry slip ▲

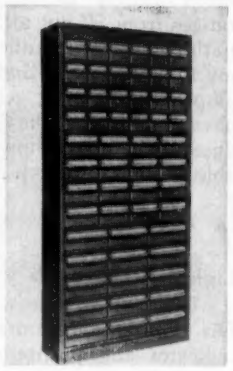
TOOL & APPLIANCE TESTER
tests for open circuits, shorts



Portable electric tools, fractional horsepower motors, extension cords, and other small electrical items can be tested and programmed with the Model B-100 tester. It will check for normal, open circuit, ground, and shorting conditions, and includes a Hi-Pot test feature within these circuits. The compact, portable instrument operates on 110-120 v ac. Models for other voltages and frequencies are available. Made by **Pow-R-Safe, Inc.**, 308 Main St., East Orange, N. J.

▲ For more details circle NED-229 E9 on enclosed inquiry slip ▲

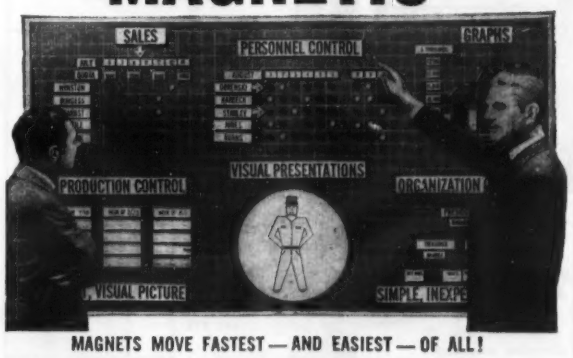
STEEL DRAWER CABINETS
wide size range fits all needs



Parts, tools, assemblies, and other items are stored in these steel drawer cabinets, safe from dust, dirt, damage, or loss. Label holders speed identification of contents and simplify selection. Jumbo drawers in 16 sizes combined with selection of 150 cabinets meet every need. The one-piece steel drawers have adjustable compartments. Drawers are available separately for use in standard steel shelving or in cabinets containing from 2 to 144 drawers. Up to 6185 separate compartments can be provided in 3 sq ft of floor space. Made by **Aurora Equipment Co.**, Equipto Div., 422 Cleveland Ave., Aurora, Ill.

▲ For more details circle NED-230 E9 on enclosed inquiry slip ▲

VISUAL MAGNETIC CONTROL



MAGNETS MOVE FASTEST — AND EASIEST — OF ALL!

SIMPLEST VISUAL SYSTEM FOR
- Production
- Personnel
- Sales
- Maintenance
- Scheduling
- Machine Loading
- Charts—Graphs
- Visual Presentations

COLORFUL MAGNETIC ELEMENTS
- show facts instantly
- organize for action
- eliminate mistakes
- get the job done

PRICED FROM **$38** INCLUDING MAGNETIC ELEMENTS

PRICE LIST & BROCHURE NES **FREE** ON REQUEST

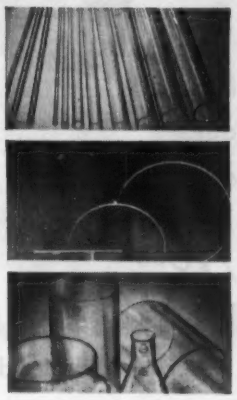
REPRESENTATION DESIRED IN SOME AREAS

Methods Research Corp.
442 Mosel Avenue, Staten Island 4, New York

▲ For more details circle NED-231 E9 on enclosed inquiry slip ▲

Having a problem with

1. Extreme Heat?
2. Thermal Shock?
3. Infrared Transmission?
4. Ultraviolet Transmission?
5. Chemical Corrosion?



Solve it with a VYCOR brand glass

Made with 96% silica, some can be used *continuously* at 900°C., intermittently to 1200°C. You can heat an object made from a VYCOR brand glass to cherry red and plunge it into ice water without breaking. One form is good for infrared transmission; another for ultraviolet. All are resistant to the attacks of most acids and alkalies. You can get VYCOR brand glass formed into practically any shape—containers, tubing, rod, flats. Write for Bulletin B-91 for complete details. Or tell us your problem.

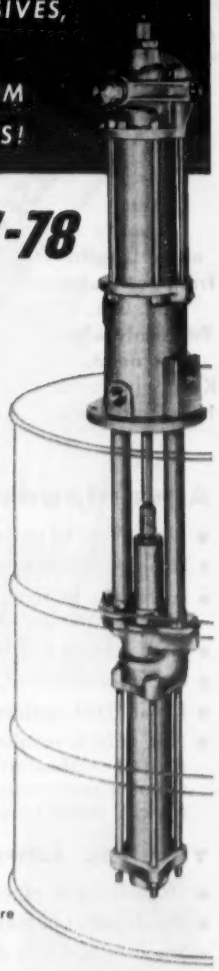
CORNING GLASS WORKS
56 Crystal Street, Corning, New York
CORNING MEANS RESEARCH IN GLASS

▲ For more details circle NED-232 E9 on enclosed inquiry slip ▲

NOW 68% MORE PUMPING POWER to handle semi-fluid materials FASTER!

PUMP SEALERS, ADHESIVES, PUTTY...EVEN HEAVY MASTICS...DIRECT FROM ORIGINAL CONTAINERS!

NEW ALEMITE V-78



68% more powerful! Alemite's new 5.4 horsepower materials handling "heavyweight" is specifically designed to dispense heavy materials through restrictive systems... wherever pressure losses create a pumping problem. The most powerful pump of its kind, the "V-78" easily handles most types of heavy mastics, sealers, putty, caulking compounds, roofing materials and hydrostatic spray applications.

Double-action pumping moves a large volume of material under most difficult operating conditions.

Submerged pump tube retains possible by-pass of materials within original container, prevents mess and waste.

Extra material outlet permits direct connection for larger hose or pipe . . . reduces pressure drop . . . maintains high volume and assures handling of more types of materials.

3 MODELS:
High-Pressure (24 to 1 ratio), Medium-Pressure (12 to 1 ratio), Low-Pressure (4 to 1 ratio)

Write for Alemite "V-78" catalog!

Symbol of SW Excellence

ALEMITE DIVISION **STEWART-WARNER** CORPORATION

Dept. HH-59, 1850 Diversey Parkway, Chicago 14, Ill.

▲ For more details circle NED-233 E9 on enclosed inquiry slip ▲

Here's data on the *New*

DIAL HEAD AGASTAT®

time/delay/relays

These relays have recently been re-designed—improved in performance *and* appearance. So you'll want up-to-date specs.

This free folder gives complete details on all models. In it you'll find operating specs, timing ranges, contact capacities, dimensions, diagrams of contact and terminal arrangements, and data on mounting and installation accessories.

For your copy, write: Dept. A34-54.

AGA DIVISION **ELASTIC STOP NUT CORPORATION OF AMERICA**
Elizabeth, New Jersey

▲ For more details circle NED-234 E9 on enclosed inquiry slip ▲

It's NEW!

SMOOTH-ON'S ALUMINUM

METALSET® A4

EPOXY RESIN IN TUBES!

Just squeeze equal lengths from each tube. Mix. Use. Take only what you need. Keep what's left for the next job.

Advantages of METALSET® A4

- No solvent to cause shrinkage
- Hence, use it in *any* thickness, all at one time
- Adhesive: to steel, iron, aluminum, glass, and all porous materials like wood and ceramics
- Hard: can be drilled and tapped
- Stable: waterproof, oilproof, chemically resistant
- Flexibilized against thermal and mechanical shock
- Not only is revolutionary epoxy-resin cement easy to use: — Metalset A4 is non-flammable, hardens at room temperature, and is made with minimum-toxicity materials only

TYPICAL APPLICATIONS...

- Stops leaks in pipes, tanks, concrete
- Bonds metal to metal, wood, concrete
- Smooths and fills dents in sheet-steel, aluminum
- Sets loose parts tight
- Caulks windows, roof fixtures, sidewalk elevators

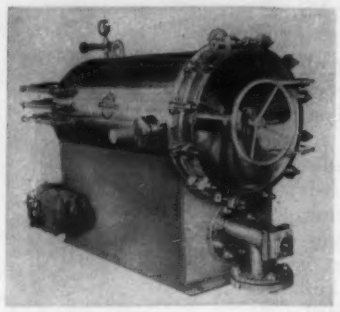
METALSET.

Made by Smooth-On Manufacturing Company
ESTABLISHED IN 1895
572 Communipaw Avenue, Jersey City 4, N. J.

▲ For more details circle NED-235 E9 on enclosed inquiry slip ▲

DIATOMITE FILTER UNIT

cake removed without opening unit

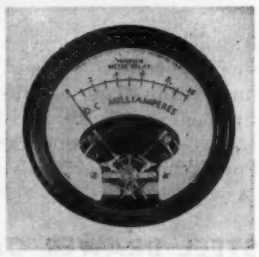


Cake stability of a horizontal plate is combined with dry cake automatic discharge in the Model HR diatomite filter. This totally enclosed, pressure type unit can be cleaned, with complete cake removal, without opening the filter. Plates are precoated and operate in horizontal position, assuring cake stability without danger of cracking or slipping. Cake can be blown completely dry with a limited air or gas supply. Plates are then rotated mechanically to vertical position for knocking off the cake by tapping or vibrating the external agitator bar. Screw conveyor removes spent cake as dry powder. Applicable to most any product, filter is well suited for toxic materials, or where sterile conditions must be maintained. Made by **Sparkler Mfg. Co.**, 324 Lake St., Mundelein, Ill.

▲ For more details circle NED-236 E9 on enclosed inquiry slip ▲

METER RELAYS

2½ and 3½-in. ac and dc types



Typical applications for 3½-in. Model 95 and 2½-in. Model 195 meter relays include over and under voltage indicators, alarm systems, automatic sorting devices, overload protection, low level switching, position sensing, and automatic gaging. Direct-current types are offered in microammeter, milliammeter, and ammeter ranges to 10 amp, self-contained; voltmeter ranges from 50 mv to 500 v, all self-contained. Alternating-current (rectifier) types are available in 500 mv to 500-v ranges and current ranges from 100 microamperes to 20 ma, self-contained. Units have black phenolic housing, bezel, and mounting ring and are dusttight and splashproof. Watertight units are available. Made by **Simpson Electric Co.**, 5200 W. Kinzie St., Chicago 44, Ill.

▲ For more details circle NED-237 E9 on enclosed inquiry slip ▲

Lighted Display & Pushbutton Switches

Minneapolis-Honeywell Regulator Co., Micro Switch Div.—Catalog 67 contains 20 pages of data on lighted indicator and pushbutton switch devices which combine indication and control functions for modern control panels. Full-color illustrations show versatility of these units.

▲ For more details circle NED-238 E9 on enclosed inquiry slip ▲

THIS VAST IMPROVEMENT OVER CONVENTIONAL HEIGHT GAGES OFFERS A NEW CONCEPT IN THE MAKING OF ACCURATE MEASUREMENTS

The radically NEW OPTIC VERNIER HEIGHT GAGE — TUMICO

Saves Time and Labor!

RAPID QUICK ADJUSTMENT — Scriber clamp permits firm clamping above and below jaw

SIZES AVAILABLE 18" 24" 36" 48" 60" 72" 84"

ASK FOR AND COMPARE OUR MODERATE PRICES!

If not available at your favorite Supply House — Write to us for Illustrated Folder Code GIBLB

ELIMINATES PARALLAX avoiding all optical reading errors

UPRIGHT COLUMN H BEAM DESIGN for SUPERIOR STRENGTH and RIGIDITY PREVENTING SWAY and VIBRATION

READING ACCURATELY with NAKED EYE from SCALE and VERNIER from REAR of GAGE

EASY READING 2-1/2" LONG VERNIER Solves problems of reading fractions of 1/1000" quickly and accurately

FINE ADJUSTMENT thru screw on base

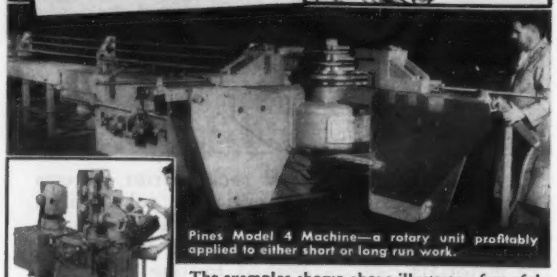
ADDITIONAL FINE ADJUSTMENT ON TOP OF BEAM ON LARGER GAGES

LARGE SOLID BASE

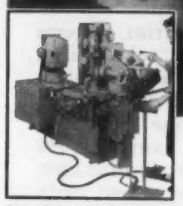
GEORGE SCHERR CO., Inc.
COMPLETE LINE OF PRECISION INSTRUMENTS
200 ND LAFAYETTE STREET • NEW YORK 12, N.Y.
West Coast Branch: SCHERR-TUMICO CO. - 3337 W. Olympic Blvd. - Los Angeles 19

▲ For more details circle NED-239 E9 on enclosed inquiry slip ▲

FOR THE LATEST **Cost-Cutting Methods** INVESTIGATE **COLD BENDING "The PINES-Way"**



Pines Model 4 Machine—a rotary unit profitably applied to either short or long run work.



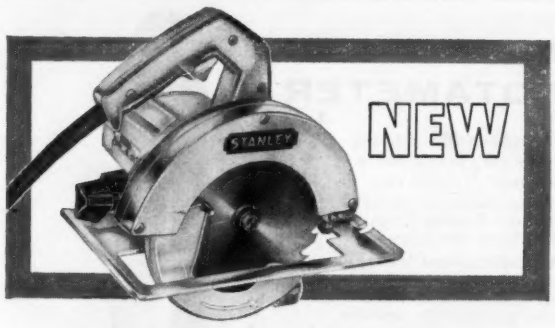
New Pines 3-T Progressive Bending Press makes quality bends in stock up to 1" O.D. at 2 to 3 times faster than ordinary machines. Larger units available.

The examples shown above illustrate a few of the many different jobs which are today more profitably produced on Pines Bending Machines or Bending Presses. New Machines and tooling techniques developed over the years are now effecting substantial savings in production costs. If your products require the cold forming of round, square, rectangular, extruded, or hollow stock to one or more different angles, it will pay you to investigate cold bending the "Pines-Way." Write today for more facts or assistance without obligation on any specific job.

PINES ENGINEERING CO., INC. Specialists in Tube Fabricating Machinery 439 WALNUT • AURORA, ILLINOIS
PRODUCTION BENDING • DEBURRING • CHAMFERING MACHINERY

Free DATA SHEETS For latest data on new bending methods, write for issues of Pines News.

▲ For more details circle NED-240 E9 on enclosed inquiry slip ▲



Heavy-duty builders saws at these low introductory prices

$49.95 H268 6½" Saw **$64.95** H269 6½" Saw **$79.95** H270 7" Saw

- Rugged ball-bearing construction
- Nearly 40% more cutting force
- Up to 2½ lbs lighter than previous models (more work with 27% less effort)
- Rear-position depth and bevel controls
- Ball-bearing* blade guard—never sticks (*H270 ONLY)
- Wide-open view of cut

For limited time, a premium offer on complete saw kits, too!

Ask your supplier for details today or write: Stanley Electric Tools, Div. of The Stanley Works, 533 Myrtle St., New Britain, Conn.

STANLEY®

▲ For more details circle NED-241 E9 on enclosed inquiry slip ▲

SHUT OUT RUST *CATHODICALLY!*

USE **DRYGALV** ZINC COATING

DRYGALV coating is 95% metallic zinc:

- stops rust on iron and steel—permanently
- stops corrosion at welded joints—permanently
- repairs damaged galvanized surfaces—permanently

Use DRYGALV and end rust worries for good! Only a minimum of surface preparation is necessary. DRYGALV can be applied over rust, partially painted surfaces or clean metal. It dries to the touch in 15-30 minutes, can be painted over in only 8 hours where color is desired. DRYGALV is non-toxic; protects against the effects of sea water. *It is applied by brush or spray.*

PROTECT with DRYGALV!

Write, wire or call for other details and prices today.

AMERICAN SOLDER & FLUX CO.
19th & WILLARD STREETS, PHILADELPHIA 40, PA.
phone: BA6-1800

▲ For more details circle NED-242 E9 on enclosed inquiry slip ▲

...with ACROFLEX, the pliable notched steel strapping

You'll find ACROFLEX as handy to have around your plant as nails and wire. ACROFLEX comes in 10 ft. lengths and can be bent by hand to conform to practically any shape needed. Illustrated above are only a few of the many possible uses of ACROFLEX.

Get more facts FREE

Complete information on ACROFLEX is contained in this folder. Write for your copy today. Ask for bulletin A-857.

Territories available for qualified representatives.

ACRO METAL STAMPING COMPANY
340 E. Reservoir Ave., Milwaukee, Wis.

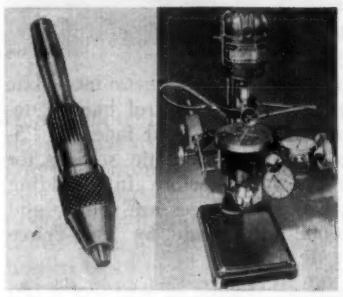
▲ For more details circle NED-243 E9 on enclosed inquiry slip ▲

ELECTRIC HUMIDIFIERS
four aerating type units offered

Minute aerated particles of water are ejected as dry mist into the air stream by cold mechanical centrifugal action in this line of electric humidifiers. Portable plug-in Model 504 has an atomizing capacity of 1½ to 1¾ pt of water per hour, sufficient for up to 12,000 cu ft. Model 2100 for plenum installation in any warm air heating system has a reservoir capacity of over ½ gal and will maintain a relative humidity of 35-45 per cent in spaces up to 30,000 cu ft, even at subzero outside temperatures. Model 3001 and 6000 for industrial use have capacities of over 1 and 2 gph, respectively. All models are made of corrosion-free metal with solvent-resistant parts. Made by **Skuttle Mfg. Co.**, Milford, Mich.

▲ For more details circle NED-246 E9 on enclosed inquiry slip ▲

WIRE DRILL CHUCK
fits in up to 1/8-in. geared chuck



Wire-size drills from 0.006 to 0.02 - in. diameter are held securely for precision drilling in this wire drill chuck. It fits into the geared chuck of any tool or drill press with 1/8-in. capacity. Truing is quickly done with touch of finger. It consists of a tapered shank, steel collet, and knurled locknut. Chuck was designed primarily for use in illustrated Micro-Drill which is also made by **Dumore Co.**, 1300 17th St., Racine, Wis.

▲ For more details circle NED-247 E9 on enclosed inquiry slip ▲

INSTEP PROTECTOR
made of aluminum and plastic

Added measure of foot safety is provided workers wearing safety toe shoes by the Diamond instep foot protector. It consists of an aluminum plate sandwiched between two ½-in. layers of unicellular vinyl plastic and coated to 0.062-in. thickness with a flame-resistant plastic. The 5½-oz protector can be worn on either foot and is held in place by a steel spring which slips over the heel. Price is $5.60 per pair. Made by **Safety First Supply Co.**, 425 Magee St., Pittsburgh 25, Pa.

▲ For more details circle NED-248 E9 on enclosed inquiry slip ▲

POINTS THE WAY TO SPEEDIER TACKING!

FOR Displays, Decorations, Insulation, Labeling, ... other uses

WRITE for free Hansen Booklet.

36 MODELS 80 STAPLE SIZES

HANSEN AUTOMATIC TACKERS

The clean, well-built design of Hansen Tackers, plus their rugged construction, points the way to faster, easier tacking. Insist on Hansen ... for the best in Tackers.

A. L. HANSEN MFG. CO.
5024 Ravenswood Ave.
Chicago 40, Illinois

▲ For more details circle NED-249 E9 on enclosed inquiry slip ▲

EASY TO APPLY. PLIOBOND requires no mixing, brushes on, dries rapidly.

EXCELLENT ADHESION. PLIOBOND exhibits exceptional strength—up to 1600 lbs./sq. in. in shear tests.

EXTREMELY DURABLE. PLIOBOND resists age, heat, cold, water, chemicals, oils.

Pliobond BY **GOODYEAR**

Pliobond—T.M. The Goodyear Tire & Rubber Company, Akron, Ohio

▲ For more details circle NED-250 E9 on enclosed inquiry slip ▲

Lowest in price because of manufacturing economies resulting from producing over 20,000 Type D's (1,500 to 15,000 cfm capacity) for handling dry, granular dust.

Requires less space because ROTO-CLONE combines collector, exhauster, motor, drive and dust storage hopper in one compact, shop-assembled unit.

An outstanding performer because ROTO-CLONE'S collection efficiency is constant regardless of exhaust volumes handled!

Write for Bulletin No. 272!

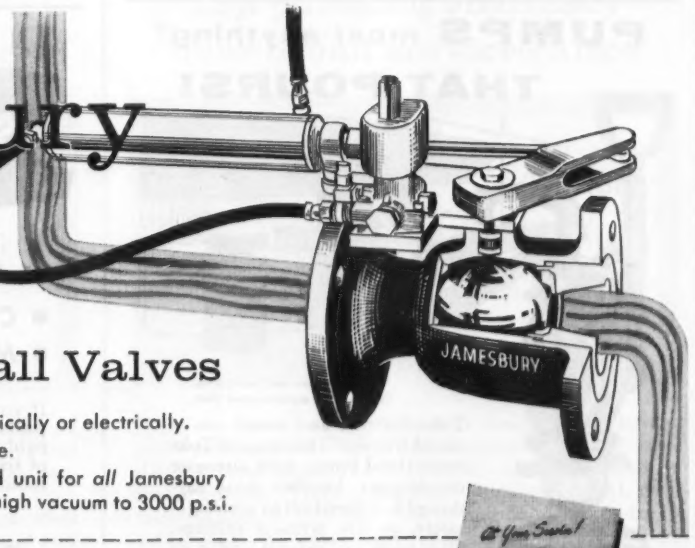
American Air Filter
COMPANY, INC.
391 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

▲ For more details circle NED-244 E9 on enclosed inquiry slip ▲

Double-Duty

with **jamesbury**

REMOTE OPERATORS* for "Double-Seal" Ball Valves



- Operated hydraulically, pneumatically or electrically.
- "Fail-Safe" constructions available.
- Available as a factory pre-tested unit for *all* Jamesbury "Double-Seal" Ball Valves: from high vacuum to 3000 p.s.i.

* Standard speed for closure: less than ¾ of a second. Faster speeds available on request.

Distributors In Principal Cities. Get The Complete Facts On All Jamesbury Products.

Name ..... Title .....
Company .....
Address .....
City ..... State .....

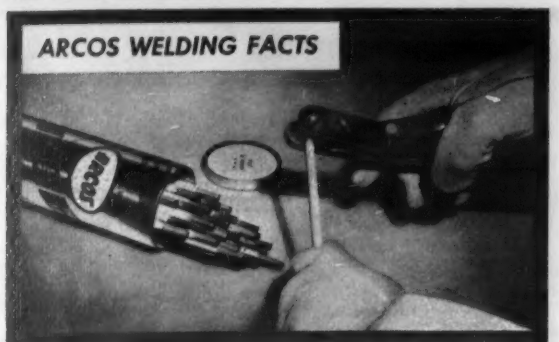
☐ Jamesbury Literature
☐ Distributor Service

JAMESBURY CORP., 125 NEW STREET, WORCESTER, MASS.

683-8

▲ For more details circle NED-245 E9 on enclosed inquiry slip ▲

ARCOS WELDING FACTS



How to Meet Every Demand When Welding Low Alloy Steels

Yours for the asking! A complete resume on Arcos Low Alloy Electrodes—grades, analyses, applications—that are produced to the same *rigid quality standards* as Arcos stainless electrodes. In addition, because of Arcos' *long experience* in the field of low alloy welding you are assured of consistent high quality welds.

FREE DATA CHART

Write for your copy of the Arcos low alloy electrode Application Chart.

Arcos Corporation, 1500 S. 50th St., Philadelphia 43, Pa.

ARCOS | Filler Metal Specialists

▲ For more details circle NED-251 E9 on enclosed inquiry slip ▲

NEW SOLENOID VALVES *by Airmatic*

These corrosion-proof valves have only one internal moving part and a completely protected solenoid coil. The coil is fully sealed from air, oil, gas and water . . . and will not overheat on continuous duty. Coils for continuous or intermittent duty, a-c or d-c, are interchangeable.

Life expectancy is many millions of cycles and by renewing the one-piece valve plunger, many millions more can be expected. The plunger can be replaced without disturbing rigid piping.

OPTIONAL DESIGNS

MANUAL OVER-RIDE

MANIFOLD MOUNTING

DISTRIBUTORSHIPS FOR THESE NEW VALVES ARE AVAILABLE

ASK FOR CATALOG
All valve deliveries are made from stock.

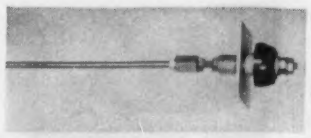
SPECIFICATIONS		
	TWO-WAY	THREE-WAY
CATALOG NO.	91011	91011
PRESSURE RANGE	1/16" ORIFICE: 0-500 PSI 3/16" ORIFICE: 0- 70 PSI	1/8" ORIFICE: 0-300 PSI 3/16" ORIFICE: 0-100 PSI
ORIFICES	1/16" THROUGH 3/16"	1/8" AND 3/16"
VOLTAGE	MOST A-C AND D-C	MOST A-C AND D-C
DUTY	CONTINUOUS	CONTINUOUS
POWER CONSUMPTION	10 - 20 WATTS	10 - 20 WATTS
HEAT RISE	WITHIN UL LIMITS	WITHIN UL LIMITS

AIRMATIC VALVE, Inc.
7313 Associate Avenue • Cleveland 9, Ohio

EVERYTHING UNDER CONTROL
Phone: WOodbine 1-5320 • WESTERN UNION: Airmatic Valve, Inc., FAX, Cleveland, Ohio

▲ For more details circle NED-252 E9 on enclosed inquiry slip ▲

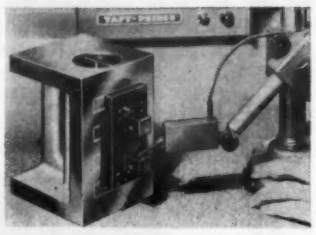
LIQUID LEVEL CONTROL
probe type is electronic



Made with single or dual fittings and 1, 3, or 5-ft extensions, this probe type liquid level controller is used in conjunction with electronic or transistor relays. It is unaffected by temperature or pressure changes, or by the consistency of the liquids. Features include stainless steel parts, neoprene splash hoods, and silicone varnish impregnated insulators. Made by **Cutler-Hammer Inc.**, 574 N. 12th St., Milwaukee 1, Wis.

▲ For more details circle NED-253 E9 on enclosed inquiry slip ▲

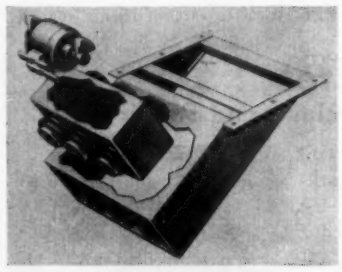
MAGNETIC WORK HOLDER
holds piece at right angles



Work clamping at right angle to table surface is facilitated by this No. 9195 Magnetic Angle Iron which can be turned on its side, on its back, or its ends. Work is held firmly in place for measuring, scribing, or indicating. Magnetic face plate is energized by turning a recessed control bar 90 degrees. One bar is located on each end face. A 25-degree turn produces a fringe magnetic setting for positioning workpiece by hand before full holding power is applied. Side and end faces are square and parallel to within 0.0002 in. Made by **Taft-Peirce Mfg. Co.**, Woonsocket, R. I.

▲ For more details circle NED-254 E9 on enclosed inquiry slip ▲

VIBRATING FEEDER
drive mounted between air springs



Fully variable, stepless amplitude control and a Natural-Frequency drive mounted between two banks of heavy duty air springs are built into the Amplitrol mechanical vibrating feeder. Drive unit has a 220/440-v, 900-rpm alternating current motor-exciter which can be mounted above or below the trough. Motor size ranges from 1/2 hp for troughs up to 2 x 8 ft up to 3 hp for a 5 x 8-ft trough, the largest standard size. Stiffness of the driving air springs can be quickly changed during operation. Air and power supply control can be local or remote, manual or automatic, and it responds to any standard instrumentation. Made by **Carrier Conveyor Corp.**, 192 N. Jackson St., Louisville 2, Ky.

▲ For more details circle NED-255 E9 on enclosed inquiry slip ▲

PUMPS most anything* THAT POURS!

*A few exceptions. Write for approved list.

Take the risk and waste out of liquid transfer! This rugged Tokheim Hand Pump, with alternate diaphragms, handles most anything from diesel oil to acetates—safely, quickly, without spillage. Eliminates fire hazards and accidents, aids good housekeeping. Accelerates production, too. Pumps 20 gallons per 100 strokes. Get list above from your Tokheim dealer, or write direct today.

TOKHEIM HAND PUMPS

General Products Division
TOKHEIM CORPORATION
DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT SINCE 1901
1656 Wabash Avenue Fort Wayne 1, Ind.

Subsidiaries: Tokheim N.V., Leiden, Holland—GenPro, Inc., Shelbyville, Ind.
Factory Branch: 475 Ninth Street, San Francisco 3, California
In Canada: Tokheim-Reeder of Canada, Ltd., 205 Yonge St., Toronto, Ont.

▲ For more details circle NED-256 E9 on enclosed inquiry slip ▲

SAVE $ WITH ATLAS

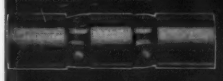
SHORT STUBBY JAWS
GREATER STRENGTH
SAFETY AT HIGH SPEEDS

Balanced to operate without vibration at all speeds. Short, stubby jaw design gives maximum resitance to spread. Larger diameter joints fitted with big grease reservoir. Standard alloy steel joints in fifteen sizes for all requirements. Also made in Bronze, Monel and other special metals.

Universal Slip Shafts a speciality.

UNIVERSAL JOINTS

ATLAS STANDARD DOUBLE JOINT



Save money with the only line of STANDARD double universal joints! Twelve sizes available from stock! Write for details.

A	C	D	Weight Each
1/2"	7/8"	2 1/4"	.20 lbs.
7/8"	5/8"	2 1/4"	.34 lbs.
1"	7/8"	3"	.61 lbs.
1 1/8"	7/8"	3"	.82 lbs.
1 1/4"	1 1/8"	3 3/4"	1.14 lbs.
1 1/2"	1 3/8"	4 1/2"	2.07 lbs.
1 3/4"	1 5/8"	5 1/4"	3.2 lbs.
2"	1 7/8"	6"	4.86 lbs.
2 5/8"	2 3/8"	7 1/2"	9. lbs.
2 15/16"	2 5/8"	8 1/4"	13. lbs.
3 1/4"	3"	9 1/2"	19.5 lbs.
4 5/16"	3 3/4"	11 1/2"	40. lbs.
5 1/4"	5 1/4"	15 3/4"	80. lbs.
6"	6"	18"	140. lbs.
7 3/4"	6"	18"	200. lbs.

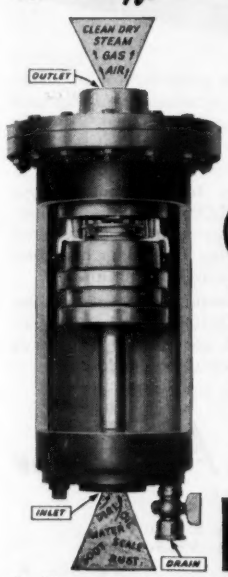
WEST COAST REPRESENTATIVES
LINK-BELT CO.
LOS ANGELES — SAN FRANCISCO
PORTLAND — OAKLAND
SEATTLE — SPOKANE

GRAY & PRIOR
THE GRAY & PRIOR MACHINE CO. 607 WINDSOR ST. HARTFORD 1, CONN

▲ For more details circle NED-257 E9 on enclosed inquiry slip ▲

Deliver **CLEAN DRY AIR** *by this Exclusive Method*

No MOVING PARTS
No FILTERS TO REPLACE
No GUESSWORK



TEXTITE AIR SEPARATORS

The accurately rated capacities of CMD Textite Air Separators assure ample C.F.M. volume to clean air and thoroughly dry it. Not mainliners; should be installed at or near point of use. Four sizes from 25 C.F.M. to 250 C.F.M. inclusive.

Send for Bulletin

CHICAGO MANUFACTURING & DISTRIBUTING CO.
1928 W. 46th St., Chicago 9, Ill.

▲ For more details circle NED-258 E9 on enclosed inquiry slip ▲

HERE'S HOW TO
SAVE TIME • MONEY and TROUBLE
on
Industrial Rubber
- ***COMPOUNDING***
- ***MOLDING***

If you fabricate with rubber or silicone rubber parts, or need assistance in development of special rubber compounds, investigate the advantages of using the specialized rubber compounding and molding service made available by the Colonial Rubber Company.

The full story of our long experience in industrial rubber developn.ent and production, and full details on our research laboratories, die-making facilities and rubber production plant is told in our 16-page brochure. Write for it today and read how Colonial is able to save time, money and trouble on rubber parts development and production. 1968

COLONIAL RUBBER CO.
RAVENNA, OHIO

▲ For more details circle NED-259 E9 on enclosed inquiry slip ▲

MAYLINE

WOOD PLAN FILE

A Choice of Files In Wood or Steel with Mayline!

Mayline wood files can be used either as files or as drawer units on Mayline wood 4-Post tables. Drawers will take papers thru 32" x 42". Finished golden Oak.

Mayline metal plan files hold papers thru 36" x 48". Drawers run quietly, easily, on ball bearing rollers. Mayline's exclusive hinged dust cover in all drawers. Choice of finish in Hammertone gray or Olive green.

Send for Catalog 10

METAL PLAN FILE WITH HINGED COVER

MAYLINE CO.
617 NO. COMMERCE ST.
SHEBOYGAN, WISCONSIN

MAYLINE

For more details circle NED-260 E9 on enclosed inquiry slip

this free folder tells how

This illustrated 4-page booklet shows you the fastest, easiest way ever developed to keep your costly drills sharp . . . and keep the savings—shows how anyone in your plant can restore dull drills to like-new sharpness in just 10 seconds with the Black Diamond Drill Grinder.* If your time, your money, and your drill costs are worth saving, send for this free booklet today.

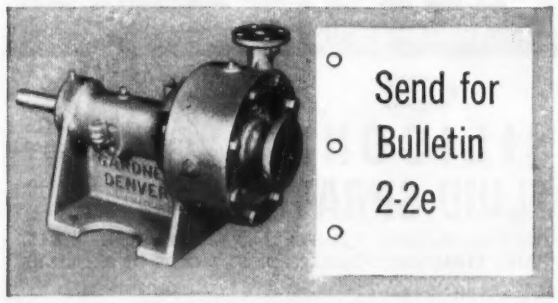
Write exclusive distributor:

EDWARD **BLAKE** COMPANY, INC.
Dept. 8, 440 Cherry St., West Newton 65, Mass.

***Black Diamond Saw & Machine Works, Inc.**
Natick, Mass.—Manufacturers of Black Diamond and Worcester Drill Grinders.
Black Diamond Drill Grinders: For #70 drills up to ¾"
Worcester Drill Grinders: For ⅛" drills up to 2½"

For more details circle NED-261 E9 on enclosed inquiry slip

High-speed pumps for general water service



High-efficiency performance over a wide variety of operating conditions—that's the Gardner-Denver line of high-speed (3460 rpm), high-head type BH centrifugal pumps for general water service.

Advanced design features include stainless steel shafts as standard . . . heavy-duty, oil-lubricated ball bearings . . . mechanical seal that eliminates packing problems . . . casing of high-strength alloy iron that produces gradual velocity changes for smooth flow, better efficiency. 1", 1½", 2" and 3" sizes—with capacities from 55 to 520 gpm.

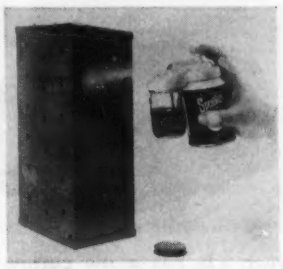
EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Avenue, Toronto 16, Ontario

GARDNER-DENVER

For more details circle NED-262 E9 on enclosed inquiry slip

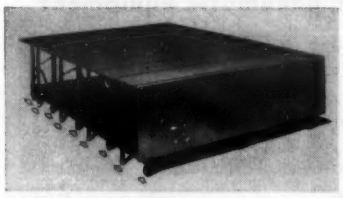
SELF-POWERED SPRAY GUN uses pressurized can of gas



Paints and lacquers, stains, lubricants, protective coatings, antirust compounds, solvents, and adhesives are among the products which can be sprayed by the Jet-Pak self-powered spray gun. It is powered by a replaceable can of aerosol gas which delivers a constant pressure. Extra jars are available for storing and spraying different liquids. Price is $4.95. Made by **Sprayon Products, Inc.**, 2075 E. 65th St., Cleveland 3, Ohio.

For more details circle NED-263 E9 on enclosed inquiry slip

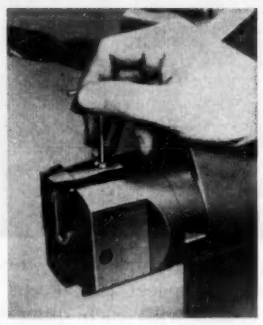
PORTABLE FOLDING STAGE in various widths, depths, heights



Model SA portable folding stage has a support at every joint in the stage floor, assuring stability. Stage is easily rolled to any location or position on large rubber casters and unfolded for use. Crutch tips on every other leg hold the stage firmly in place. Understructure is secured to stage floor by 500-lb pull expansion type anchors, with no protruding bolt heads to make refinishing difficult. Stage is offered in six widths from 6 to 16 ft, depths from 6 to 30 ft and open heights of 18 to 48 in. Also available are folding steps and a key lock to prevent unauthorized use. Made by **Schieber Mfg. Co.**, 12955 Inkster Rd., Detroit 39, Mich.

For more details circle NED-264 E9 on enclosed inquiry slip

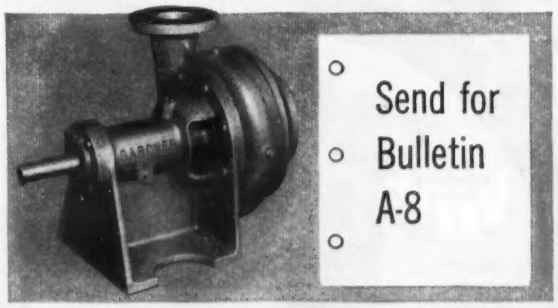
ADJUSTABLE FACING HEAD for precision boring, spot facing



Usable in boring machines, turret lathes, drilling equipment, and other machine tools, Microface adjustable blade facing head provides for precision plunge facing of wide surfaces. Interchangeable high speed steel or carbide blade is dovetail mounted in the one-piece head, and it is micrometer adjusted with position indicated on setting dial. Five heads are available with diameter ranges of 1½ to 2¼ in. up to 5 to 8½ in. Adapters have shanks to fit all types of machine tool spindles. Made by **DeVlieg Machine Co.**, DeVlieg Microbore Div., Fair Street, Royal Oak, Mich.

For more details circle NED-265 E9 on enclosed inquiry slip

Top pumping efficiency over broad service range



Here's a line of versatile pumps designed to deliver peak performance over a broad range of service conditions. And they take variations—either in head or water volume. They're Gardner-Denver type BL centrifugal pumps with heavy-duty ball bearings, factory-lubricated . . . extra large shaft to assure continual alignment . . . strong supporting frame . . . trouble-free mechanical seal. 2", 3", 4", 5" and 6" sizes provide capacity range from 100 to 1600 gpm.

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Avenue, Toronto 16, Ontario

GARDNER-DENVER

For more details circle NED-266 E9 on enclosed inquiry slip

SHIPPING TAGS+++ PLAIN OR PRINT-ED

ESTABLISHED 1893 Campbell +

QUALITY PACKAGING SINCE 1893.

CAMPBELL BOX & TAG CO.
DIVISION OF STONE CONTAINER CORPORATION
MAIN & NEW STREETS SOUTH BEND 23, INDIANA

For more details circle NED-267 E9 on enclosed inquiry slip

NEW...

Gives 1½" Hose Lines Up to 6 Times More Fire Fighting Capacity!

The ROCKWOOD Handline Nozzle

Now you can give 1½" hose lines the fire fighting capacity of 2½" lines . . . simply by replacing conventional nozzles with Rockwood Handline Nozzles! These high capacity nozzles are highly versatile, too . . . can be quickly adjusted to deliver a solid, long-range FOAM stream, dispersed FOAM pattern, WaterFOG, fan-shaped WaterFOG pattern, or straight stream water. Positive control design assures easy handling under *all* fire conditions. Available in 2 capacities: 100 gal. and 60 gal. at 100 p.s.i. Write for complete details. Rockwood Sprinkler Company, 1371 Harlow St., Worcester 5, Mass. Tested and listed by Underwriters' Laboratories, Incorporated.

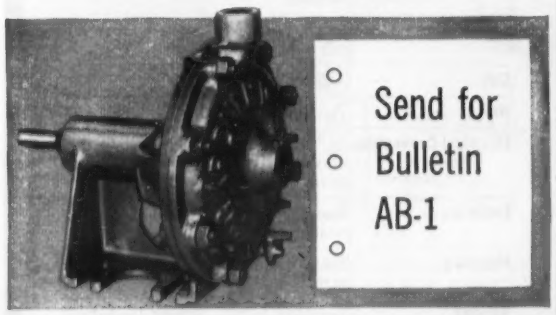
ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to Cut Fire Losses

Distributors in all principal cities

For more details circle NED-268 E9 on enclosed inquiry slip

Reverse Rotation without alteration



Abundant circulating cooling water—regardless of rotation—to air compressors, diesel engines or other water-cooled machines. That's Gardner-Denver's CAY 1½" reversible centrifugal pump. It requires *no alteration* whatsoever *for reversing* rotation, but *operates efficiently in either direction . . . can be installed in any position* on a machine. No need to turn pump around when moving from one side of the machine to the other. Simplified piping design requires minimum of fittings. Mechanical seal eliminates packing problems. CAY handles up to 65 gpm.

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Avenue, Toronto 16, Ontario

GARDNER-DENVER

For more details circle NED-269 E9 on enclosed inquiry slip

TUNE UP FURNACES with Dashboard Simplicity

Your money back if not satisfied

HEAT PROVER Analyzer
25 lb, 11"W, 11"H, 8"D

For five-times-faster combustion testing, try this fuel-saver. It tells you *what's happening* as you make furnace adjustments; not what happened! No guessing, no spot readings to average. Sturdy, portable, simple, and easy to use. Compare it to an Orsat. *If you're not convinced in 60 DAYS we refund your money.*

Price: $980.00; includes HEAT PROVER Analyzer and Standard Accessories. Offer valid in Continental U.S. only.

To order or get additional facts, write us direct, or contact any of our 24 District Offices.

BAILEY METER COMPANY
1086 Ivanhoe Road • Cleveland 10, Ohio

▲ For more details circle NED-270 E9 on enclosed inquiry slip ▲

AUTOMATIC PRESSURE or VACUUM CONTROL J6

UE TYPE J6 PRESSURE & VACUUM CONTROL

UNITED ELECTRIC TYPE J6 unit is designed to automatically control either pressure or vacuum . . . has a fixed, uniform on-off differential as specified between limits of 3" WC to 2 PSI . . . and a maximum controlling pressure of 180 PSI. It is a sensitive, weatherproof, precision built control with good repeatability. Recommended for all pressure or vacuum applications which require close on-off differential control.

Switch Differential	Fixed as specified between limits of 3" WC to 2 PSI.
Switch Ratings	15 or 20 amps at 115 or 230 volts AC, also DC switches upon specification.
Switch Types	N.O., N.C., or Double Throw, no neutral position.
Size	4¾" x 4 27/32" x 2 5/16".
Weight	Approx. 1 lb. 8 oz.
Electrical Connection	½" NPT conduit opening in enclosure, screw type terminals on switch is standard.
Enclosure	Die-cast aluminum case, black wrinkle finish standard.
Mounting	Surface mounted—by 2 mounting ears.
Bellows	Seamless brass—spring loaded.
Pressure Connection	¼" NPT female connection.

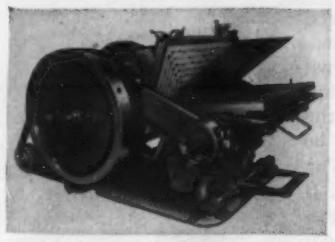
UNITED ELECTRIC *manufactures a complete line of temperature, pressure and vacuum controls. UE will gladly modify or custom-build a unit to your specifications. Consult a UE application engineer today.*

Write for Bulletin No. 5-3 for complete J6 data.

United Electric Controls COMPANY
89 SCHOOL STREET, WATERTOWN, MASS.

▲ For more details circle NED-271 E9 on enclosed inquiry slip ▲

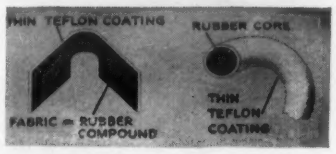
CUTTING & CREASING PRESS has die cutting load of 80 tons



Double micrometer design of the 28 x 41 DM cutting and creasing press allows for impression adjustment in thousandths of an inch on either one or both sides as required by press wear. It has a die cutting capacity of 80 tons and incorporates heavy steel platen, driven platen shaft, and helical gears. A hinged cutting plate facilitates makeready corrections without removing the plate from the press. Press load is 240 tons. Made by Thomson-National Press Co., Franklin, Mass.

▲ For more details circle NED-272 E9 on enclosed inquiry slip ▲

TEFLON-COATED SEALS for hydraulic, pneumatic equipment



Breakaway torque and running friction are reduced with use of these Teflon-coated sealing cups for hydraulic and pneumatic equipment. Cups will not stick to cylinder walls even after long periods of idleness, and they eliminate packing chatter and squealing. Teflon, applied in a thin coat over the cup, actually becomes integral part of the packing. Chevron packing and O-rings are also available Teflon-coated. Made by Garlock Packing Co., 430 Main St., Palmyra, N. Y.

▲ For more details circle NED-273 E9 on enclosed inquiry slip ▲

INSULATING PIPE COUPLING made of inert, high impact plastic

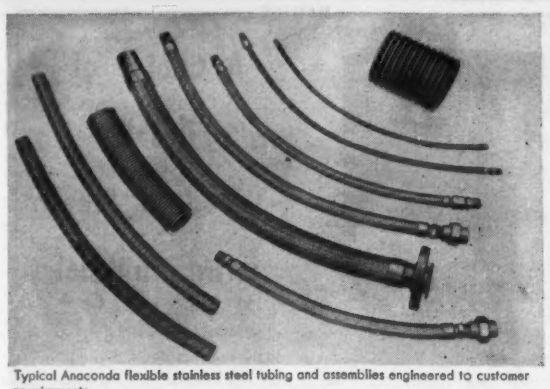
Electrolytic corrosion of natural gas distribution piping caused by flow of stray currents is prevented by an easily installed compression type coupling of unplasticized polyvinyl chloride. The nonconducting, inert, high impact coupler has rubber gaskets that grip the metal pipe ends when it is tightened. A plastic sliding spacer ring keeps the pipe ends from making contact with each other inside the coupler. The injection molded coupler is 6 in. long and fits over 1¼-in. IPS metallic pipe. Length of 4½ in. between gaskets enables it to bridge gaps from ½ to several inches. Made by Tube Turns Plastics, Inc., 2929 Magazine St., Louisville 11, Ky.

▲ For more details circle NED-274 E9 on enclosed inquiry slip ▲

THE LEADING "COMPLETE" LINE OF HOT STAMPING EQUIPMENT

"The Original Marking Specialists"
The ACROMARK Company
7-11 MORRELL ST., ELIZABETH 4, N. J.
PATENTS, COPYRIGHTS AND TRADE MARKS REGISTERED U. S. PAT. OFF., WASH., D. C.

▲ For more details circle NED-275 E9 on enclosed inquiry slip ▲



Typical Anaconda flexible stainless steel tubing and assemblies engineered to customer requirements.

Flexible tubing that resists corrosion

Flexible stainless steel tubing made by Anaconda Metal Hose is an ideal, economical flexible connector wherever you have to convey searching or corrosive liquids or gases under either high or low temperature and pressure conditions. This flexible tubing stands up under continuous flexing . . . absorbs severe vibration . . . compensates for misalignment . . . is easily installed.

FREE CATALOG: Gives engineering data on construction and types. Includes pressure ranges, data on fittings. Write to: Anaconda Metal Hose Division, The American Brass Company, Waterbury 20, Conn.
59134

WHEREVER CONNECTORS MUST MOVE **ANACONDA®** METAL HOSE

▲ For more details circle NED-276 E9 on enclosed inquiry slip ▲

Lift Unbalanced Loads FASTER... MORE SAFELY

CALDWELL Hoisting Equipment

ADJUST-A-LEG SLING

EQUALIZES . . . LOCKS UNDER LOAD

Saves valuable time . . . gives crane operator perfect control at all times. Lifts load level or at any desired angle. Balance point is easily located for level lifts. Sizes ¾ ton to 50 ton. All have 5 to 1 safety factor. Every shop needs Caldwell Slings. Investigate.

WRITE FOR BULLETIN J

THE CALDWELL COMPANY, INC.
1123 FOURTH AVE., ROCKFORD, ILL.

▲ For more details circle NED-277 E9 on enclosed inquiry slip ▲

WHEREVER SOMETHING STICKS

You'll Find A Use For

IMS

SILICONE FLUID SPRAY

ON FILM SEALERS, CRIMPER JAWS, EMBOSSING ROLLS, PANS; STAMPING, FORMING DIES—MOLDS OF ALL KINDS

SIMPLY SPRAY ON THIS PURE SILICONE FLUID COATING

And your sticking problems are over!

The most economical way to apply costly Silicone Release Agents!

SAFE — NON-TOXIC
CLEAN — LONG LASTING

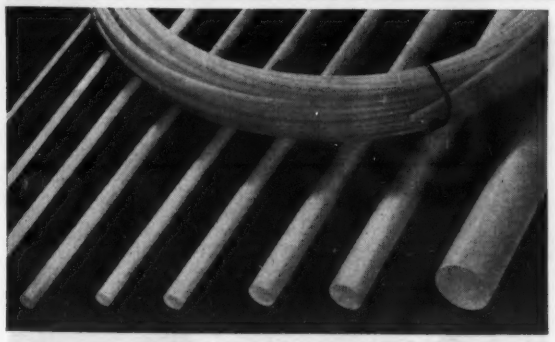
Handy Self Dispensing Can

Has No-Fumble, Speedy Spray Head

PRICES (Delivered)
Sample Can..... $2.00
Per Unbroken Dozen..... $18.00
Per Unbroken Gross.... $197.40

INJECTION MOLDERS SUPPLY CO.
3514 LEE RD. CLEVELAND 20, O.

▲ For more details circle NED-278 E9 on enclosed inquiry slip ▲



Guaranteed Bubble-Free CHEMISEAL® Nylon Rod

End rejection of screw machine parts due to bubbles. CHEMISEAL Nylon Rod has excellent mechanical properties . . . resistant to chemicals, oils, grease, solvents.

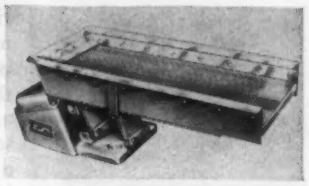
Standard sizes from 1/16" to 3/4" diameters in 6-8' lengths, 7/8" to 3" diameters in 3-4' lengths. Larger sizes will be supplied on special order.

Just pick up the phone and call your nearest Garlock sales office or warehouse. They will deliver any quantity you need, anywhere you need it. Or, drop a line to

United States Gasket — THE GARLOCK PACKING COMPANY, Palmyra, N. Y. — Plastics Division of GARLOCK

▲ For more details circle NED-279 E9 on enclosed inquiry slip ▲

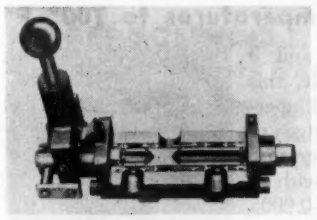
SCREENING FEEDER separates particles by size



Simultaneous rate-controlled screening and feeding of powders and other fine bulk materials in relatively small quantities is function of the SF-01 screening feeder. The small, electromagnetically vibrated unit provides ample particle agitation to effect accurate separation of particles by size. Lag-free feeding of the sized or separated particles to the next operation is provided. Vibration is adjusted by a rheostat (which can be remotely mounted) to set feed rate to processing requirements. Made by Syntron Co., 405 Lexington Ave., Homer City, Pa.

▲ For more details circle NED-282 E9 on enclosed inquiry slip ▲

HYDRAULIC OPERATING VALVES two, three, and four-way types



Line pressure acts both inside and outside the U-cup seals during the operating cycle of these hydraulic operating valves. Seals thus "float" across ports without distortion, shear, or undue wear. The single piston valves have either screwed or flanged pipe connections. They are offered for hand operation or with a choice of remote controls, including solenoid and hand-operated air or hydraulic pilot valves. Cast of bronze or steel, sizes from 1/2 to 2 in. are offered in three and four-way types, and up to 6 in. in two-way or spray valve types for up to 2000-psi. Made by Homestead Valve Mfg. Co., Valve Div., Coraopolis, Pa.

▲ For more details circle NED-283 E9 on enclosed inquiry slip ▲

FLUORESCENT LAMP produces 15 per cent more light

New design of the improved Power-Groove fluorescent lamp has grooves along opposite sides of the tube, rather than along one side only. The improved version produces 15 per cent more light, yet consumes only 7 per cent more electric power. Lamp weight is reduced almost one-quarter. Lamp can be used in existing Power-Groove fixtures with increased light output in most cases. New installations, with ballasts and fixtures designed for the improved lamp, will achieve the full gain in light output. Power-Groove lamps will be available in 4, 6, and 8-ft lengths at no increase in price. Made by General Electric Co., Large Lamp Dept., Nela Park, Cleveland 12, Ohio.

▲ For more details circle NED-284 E9 on enclosed inquiry slip ▲

JEFFREY all-purpose CAR PULLERS

Type 240-A handles up to 3 loaded cars.

Pull in any direction — Large vertical capstan makes it easy. Winch allows as many turns of rope as needed for hard pulls and to prevent slippage.

Save time—Eliminate waiting for locomotive to spot cars for loading or unloading . . . avoid hard, slow job of pinching cars into position.

Eliminate heavy equipment—Use Jeffrey Car Pullers for spotting cars or ships, docking barges, handling moving jobs wherever a pulling force is needed. Described in Bulletin 861. The Jeffrey Manufacturing Company, 952 North Fourth Street, Columbus 16, Ohio.

JEFFREY

THE JEFFREY MANUFACTURING COMPANY • COLUMBUS 16, OHIO

▲ For more details circle NED-285 E9 on enclosed inquiry slip ▲

EVERY TIME YOU MOVE A MACHINE

Barry Machine Mounts CUT MAN-HOURS 90%

In new installations — In relocating machinery — you get savings like these!

3 man-hours instead of 42 man-hours to move machines at Johnson & Johnson

60% saving in new machine installation cost at American Type Founders

No lost production time in moving a complete machine shop at Wyman-Gordon

Barry Leveling Machinery Mounts let you move machines wherever they are needed, and have them in full production in **minutes** — with no delays for drilling, lagging, or shimming.

Write now for the Field Reports that prove these savings — that **you** can get with Barry Machinery Mounts.

BARRY CONTROLS INCORPORATED — BARRY B MOUNT — SOLD THROUGH INDUSTRIAL DISTRIBUTORS

752 PLEASANT STREET, WATERTOWN 72, MASSACHUSETTS

▲ For more details circle NED-280 E9 on enclosed inquiry slip ▲

A NEW and VERSATILE method FOR FACTORY CLEANING

TORNADO PAC-VAC

Tornado Pac-Vac is popular as a bench type vacuum or dust collector. Install it on a bench, hang it on a wall or machine and you have a powerful suction right at the source of dust, lint, dirt or chips.

Tornado offers you the handiest, portable vacuum or air source you've ever used. Pac-Vac is a powerful motor and impeller unit mounted on a comfortable pack frame. Use it as a vacuum cleaner for cleaning floors, bins, shelves, machines, fixtures, overhead pipes, beams or skylights.

By changing the hose position it becomes a handy tool for Air sweeping paper, boxes and debris from large areas.

The demountable motor unit converts into a powerful blower for motor and machinery maintenance.

Buy several Pac-Vacs, keep them throughout your plant and watch "housekeeping" improve at once. Pac-Vac is available with 3/4—1 or 1 1/2 H.P. motor units and a wide assortment of attachments.

Write for Pac-Vac Bulletin No. 921 today. Your local Tornado Distributor will be glad to demonstrate Pac-Vac in your plant.

BREUER ELECTRIC MFG. CO.

5116 N. Ravenswood Avenue • Chicago 40, Illinois

▲ For more details circle NED-286 E9 on enclosed inquiry slip ▲

NEW 2-SPEED SKIL RECIPRO SAW

cuts anything that can be sawed by hand ...easier, better, and 5 to 20 times faster!

New 2-speed feature obsoletes all other reciprocating saws. High-speed for fastest cuts in wood, compositions; low-speed for fast metal cuts with minimum blade wear. The right cutting speed for every job—no single compromise speed.

Plus these features:

- **Exclusive two-position shoe**—Doubles blade life. When one blade section wears out, another part can be used.
- **Off-center blade location**—Cuts close to corners, right or left, up or down, because blade has off-center location and can be reversed in blade clamp.
- **Only 3 main moving parts**—Simple, rugged design. All ball-bearings. Parts subject to wear are heat-treated steel.

WRITE TODAY!

SKIL Corporation, Dept. NED-59
5033 N. Elston Ave., Chicago 30, Ill.

Send me FREE brochure (No. F-14499) containing full details of the new SKIL Recipro Saw and illustrating the many ways it can be used.

Name _____

Company _____

Position _____

Street _____

City _____ *State* _____

SKIL

▲ For more details circle NED-281 E9 on enclosed inquiry slip ▲

CLOSE CARTONS BY STAPLING!

Faster than Tape — at Less Cost

SAVE LABOR! Faster . . . no waiting for adhesives to dry. Fewer operations . . . no pre-setup time. Just fill, staple and ship. Portable and production models with capacities up to 500 cartons per hour.

SAVE MATERIAL! No waste . . . smaller inventory. Several wide crown steel staples do the work of feet of tape. Cartons are reusable.

REDUCE LOSS CLAIMS! Stapled Cartons keep their shape during storage . . . safely meet all shipping requirements . . . are pilferproof . . . won't pop open regardless of humidity.

CARTONS ARE CLOSED BETTER WITH STAPLERS . . . BEST WITH INTERNATIONAL STAPLERS

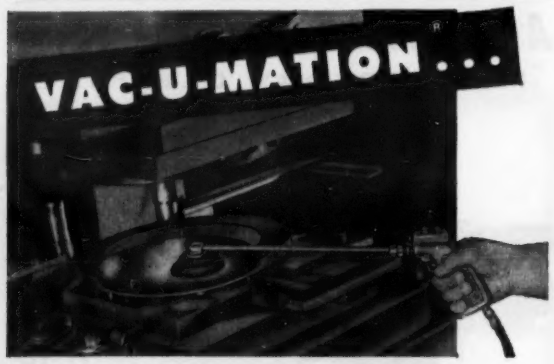
International Gold Crown ISM STEEL STAPLES SEAL SECURELY

International Staplers

INTERNATIONAL STAPLE & MACHINE COMPANY
P. O. BOX 270 • HERRIN, ILL.

Originators of Carton Closing Staplers

▲ For more details circle NED-287 E9 on enclosed inquiry slip ▲

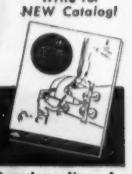


. . . offers you SAFETY and economy of feeding and ejection

PRES-VAC SAFETY FEEDERS feed blanks to press from a safe distance of 14 inches—BY AIR!—maximum protection to operators and handling costs kept at a minimum. Save those fingers. $35.00

AIR BLAST VALVES eject parts safely with each stroke of the press—BY AIR! Save those hands. $29.00

Write for NEW Catalog!



4583

VAC-U-MATION DIVISION
4169 Ravenswood Avenue, Chicago 13, Ill.
District Offices: Detroit and Cleveland

▲ For more details circle NED-288 E9 on enclosed inquiry slip ▲

SOUTHWEST "Monoball" SELF-ALIGNING BEARINGS

CHARACTERISTICS

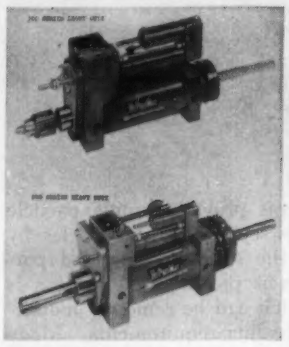
ANALYSIS	RECOMMENDED USE
1 Stainless Steel Ball and Race	For types operating under high temperature (800-1200 degrees F.).
2 Chrome Alloy Steel Ball and Race	For types operating under high radial ultimate loads (3000-893,000 lbs.).
3 Bronze Race and Chrome Steel Ball	For types operating under normal loads with minimum friction requirements.

Thousands in use. Backed by years of service life. Wide variety of Plain Types in bore sizes 3/16" to 6" Dia. Rod end types in similar size range with externally or internally threaded shanks. Our Engineers welcome an opportunity of studying individual requirements and prescribing a type or types which will serve under your demanding conditions. Southwest can design special types to fit individual specifications. As a result of thorough study of different operating conditions, various steel alloys have been used to meet specific needs. Write for Engineering Manual No. 551. Address Dept. NED59

SOUTHWEST PRODUCTS CO.
1705 SO. MOUNTAIN AVE., MONROVIA, CALIFORNIA

▲ For more details circle NED-289 E9 on enclosed inquiry slip ▲

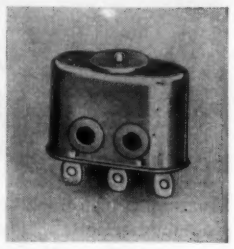
DRILLING & TAPPING UNITS stroke lengths range to 25 in.



Easily interlocked with indexing tables, automatic work feeders, and fixtures, these automatic drilling and tapping units have strokes to 12 in. in light duty types and to 25 in. in heavy duty models. They will perform drilling, tapping, and multiple diameter step machining. Spindle is belt driven, and controlled feed is powered by cylinder. Made by **Hypneumat, Inc.**, 647 W. Virginia St., Milwaukee 4, Wis.

▲ For more details circle NED-290 E9 on enclosed inquiry slip ▲

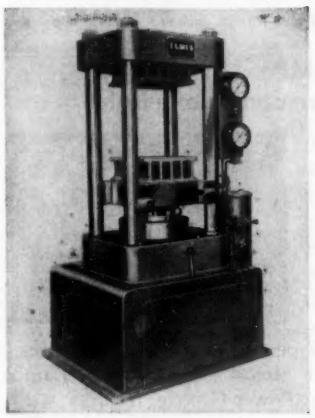
SUBMINIATURE SWITCH withstands temperatures to 700° F



Rated 5 amp resistive and 3 amp inductive at 28-v dc, this subminiature switch will operate in temperature range of −65 to 700° F. Operating force is 10 to 20 oz with a movement differential of 0.0005 to 0.005 in. This snap-action, nonsealed switch conforms to MIL specs. Made by **Haydon Switch, Inc.**, 536 Leonard St., Waterbury 20, Conn.

▲ For more details circle NED-291 E9 on enclosed inquiry slip ▲

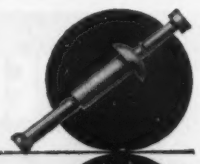
HYDRAULIC PRESS laboratory unit is air powered



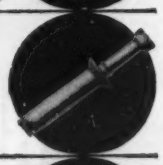
Laboratory testing and research work in plastics molding, plus small plastics and rubber parts production can be performed in the Hydrolair air-powered hydraulic press. Its air-hydraulic intensifier is powered by the plant air line or a small compressor. Standard models have 30, 50, 75, and 100-ton capacities, manual control, and optional hot plates. The 50-ton model is also available with electric pushbutton control. Illustrated custom model has 100-ton capacity, operating temperatures of 900-1000° F, and adjustable gibs and machine columns for accurate platen movement. Made by **American Steel Foundries**, Elmes Engineering Div., 1150-S Tennessee Ave., Cincinnati 29, Ohio.

▲ For more details circle NED-292 E9 on enclosed inquiry slip ▲

YOU GET BETTER FASTENING



FOR LESS WITH



TOWNSEND BLIND RIVETS

Townsend's Cherry and Versa blind rivets provide more economical joints with superior strength. The knob stems of the rivets make the most positive, foolproof engagement, assuring consistent high-quality, high-speed production even from workers having no special skill or training in riveting. Setting guns have long strokes to set the rivets with one squeeze of the trigger, and their simplified designs keep maintenance costs low.

For complete information on how Townsend blind rivets can lower your fastening costs, write for Bulletin TL-124.

Townsend Company
P. O. Box 237-G • New Brighton, Pa.

▲ For more details circle NED-293 E9 on enclosed inquiry slip ▲

How To Get Things Done

BOARDMASTER VISUAL CONTROL

Gives you a Graphic Picture of your operations, spotlighted in color. You see what is happening at a glance. Facts at eye level—saves you time, prevents errors.

Simple, flexible—easily adapted to your needs. Easy to operate. Type or write on interchangeable cards, snap in grooves. Ideal for production, scheduling, sales, traffic, inventory, etc. Made of metal. Compact, attractive.

Complete Price $49.50 Including Cards

FREE 24-Page Illustrated Booklet N-100 Mailed Without Obligation

GRAPHIC SYSTEMS 55 WEST 42ND STREET NEW YORK 36, N. Y.

▲ For more details circle NED-294 E9 on enclosed inquiry slip ▲

more than steel

BORROUGHS OF KALAMAZOO STEEL SHOP EQUIPMENT

- a quality product
- an exceptional value
- a product that merits your consideration

Don't think for a minute that all steel shop equipment is more or less alike. There's a big difference in BORROUGHS Shop Equipment. Borroughs gives you more than quality materials, rugged construction and expert workmanship. Borroughs gives you unusual features too. For example . . . compound steel channel reinforcements in the noise-resistant work bench top help to achieve an unusual reduction in "drum" effect, making it "easy on the ears" for workers. In addition, the work benches are adaptable to many different bench and table combinations with Borroughs special accessories. You'll learn a lot more about Borroughs Shop Equipment if you'll send for Borroughs catalog.

send for catalog

Borroughs Steel Shop Equipment line includes work benches, tool stands, utility carts, shop desks and tables, as well as portable and semi-portable work bench kits and many other accessories.

BORROUGHS MANUFACTURING COMPANY OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp KALAMAZOO, MICHIGAN

▲ For more details circle NED-295 E9 on enclosed inquiry slip ▲

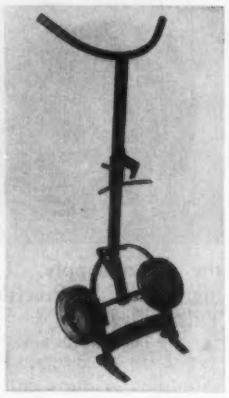
FEATURES FOR FASTER PRODUCTION

EATON RELIANCE DIVISION MANUFACTURING COMPANY 509 CHARLES AVENUE • MASSILLON, OHIO

SALES OFFICES: NEW YORK • CLEVELAND • DETROIT CHICAGO • ST. LOUIS • SAN FRANCISCO • LOS ANGELES

For more details circle NED-296 E9 on enclosed inquiry slip

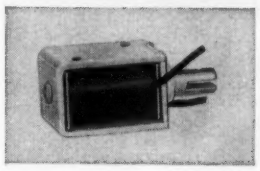
DRUM & BARREL TRUCK
has capacity of about 1000 lb



Wooden barrels and steel drums of varying heights and diameters are easily handled with the Hustler Model 68 drum and barrel truck. When an auxiliary chime hook is added, fiber drums can also be handled. Cradling design holds the load securely on inclines, uneven floors, and while loading or unloading pallets. Chime hook assembly is spring loaded to hold hook in any desired position on the vertical stem. All-metal or rubber-tired wheels are available. Made by **Modern Equipment Co.**, 2007-11 Cuming St., Omaha 2, Nebr.

For more details circle NED-299 E9 on enclosed inquiry slip

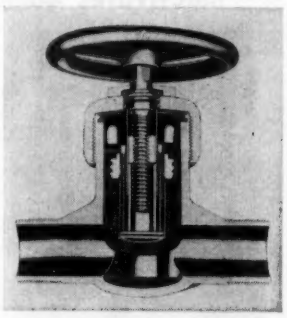
MIDGET SOLENOID
stroke adjusts from 3/32 to 5/16-in.



Suited for continuous or intermittent duty, this No. 22 midget solenoid is particularly usable in miniaturized assemblies. Plunger stroke, adjustable from 1/32 to 5/16 in., has maximum lift of 11 oz, continuous, or 24 oz, intermittent. Coils for operation on 6 to 110-v dc are available. Made by **Guardian Electric Mfg. Co.**, 1621 W. Walnut St., Chicago 12, Ill.

For more details circle NED-300 E9 on enclosed inquiry slip

PLASTIC VALVE
soft rubber cup is seal medium



Tight seal in this all-plastic valve is achieved when the stem forces a soft rubber cup to the concave bottom in the fluid passage. Actuating stem is located in telescoping sleeves which prevent ingress of fluid. Outer sleeve acts simultaneously as a pressure tube in the plunger, reinforcing the rubber cup from within. Sand or grit in line will not impair valve operation because soft rubber cup accommodates these particles without damage. Valve can be installed in metal or plastic piping systems and is available with screwed or flanged ends, or with socket ends. Working pressure is 145 psi; test pressure, 230 psi. Sizes range from 1 to 4 in. Made by **W. S. Rockwell Co.**, 200 Eliot St., Fairfield, Conn.

For more details circle NED-301 E9 on enclosed inquiry slip

Rotary

OILDRAULIC POWER

Cuts the cost of lifting heavy loads

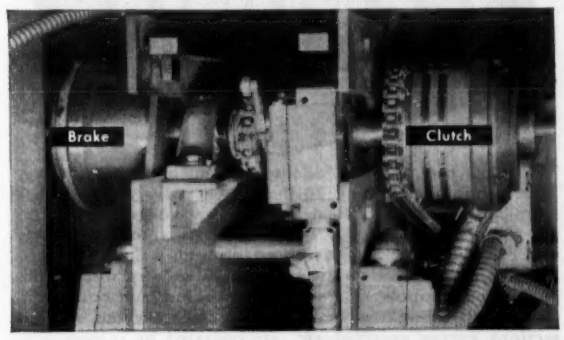
Write for catalogs

ROTARY LIFT CO., 1060 KENTUCKY, MEMPHIS, TENN.

For more details circle NED-303 E9 on enclosed inquiry slip

Simplatrol

LARGER SIZES ELECTRIC CLUTCHES & BRAKES



Give swift, certain push-button control on automatic die cutting press.

Here you see Simplatrol 130 Electric Clutch and Brake units installed in a high speed, automatic die cutting press.

These durable Simplatrol units control the vital and unique automatic table drive motion in the press. Clutch and brake actions are timed and controlled by photoelectric cell.

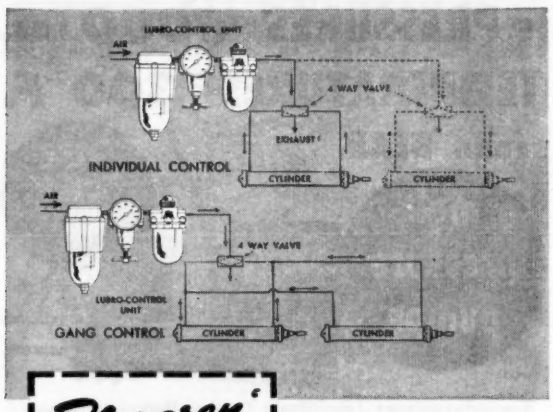
Simplatrol's patented diaphragm feature means reduced maintenance cost in this and in hundreds of other installations. There is no shock or noise in the clutching and braking action.

Ask for complete Simplatrol literature.

Simplatrol products corp. 24-6 SALISBURY ST., WORCESTER, MASS.

116-9 Representation in Key Industrial Areas

For more details circle NED-304 E9 on enclosed inquiry slip



Norgren MICRO-FOG LUBRO-CONTROL UNITS

- IMPROVE AIR CYLINDER PERFORMANCE
- INCREASE CYLINDER LIFE
- LOWER MAINTENANCE COSTS

If it's Norgren... It's Dependable.

C. A. NORGREN CO. WRITE FOR DESCRIPTIVE LITERATURE

3405 SO. ELATI STREET • ENGLEWOOD, COLORADO

For more details circle NED-297 E9 on enclosed inquiry slip

NEW! Rapistan® ASSEMBLY-LINE CONVEYOR

A conveyorized work table with "built-in flow", Rapistan's economical Model 1050 horizontal power belt unit is ideal for assembly, testing, sorting and packing operations. Available in lengths from 5' to 60', belt widths from 4" to 24", with ample work surfaces provided parallel to belt. Reversible belt travel. For permanent or portable installations.

SPECIFICATIONS Write for Model 1050 Bulletin

Rapistan® new ideas in materials handling

The RAPIDS-STANDARD CO., Inc. 604 Rapistan Bldg., Grand Rapids 2, Mich.

For more details circle NED-298 E9 on enclosed inquiry slip

NEW Power Belt Conveyor

Rapistan® MODEL 400

Versatile power-belt unit conveys wide range of goods horizontally or on incline. Used for inter-floor applications or as low-cost booster in gravity flow systems. Serves as processing or assembly table in horizontal position.

SPECIFICATIONS Write for Model 400 Bulletin

Rapistan® new ideas in materials handling

The RAPIDS-STANDARD CO., Inc. 605 Rapistan Bldg., Grand Rapids 2, Mich.

For more details circle NED-302 E9 on enclosed inquiry slip

R-K's NEW 2" pitch overhead conveyor trolleys are really RUGGED

Greater capacity, too — (135 lbs.) with our NEW No. 3 trolley. The trolley wheel is a screw machine product designed for easy rolling, trouble-free operation. Available with neoprene or felt seals. Trolley brackets, center link and "H" attachment are rugged steel forgings.

Write for this new bulletin illustrating cost-cutting applications for Rapistan-Keystone overhead conveyor.

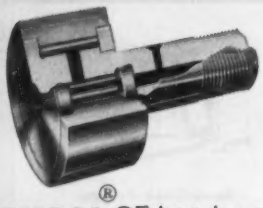
R-K No. 3 trolley features fully-machined wheels, hardened raceways, twelve 5/16" ball bearings, replaceable grease fitting with ball check device for positive lubrication.

Rapistan-KEYSTONE, INC.

21752 West Eight Mile Road, Detroit 41, Michigan

For more details circle NED-305 E9 on enclosed inquiry slip

Save the time, cost and inconvenience of building up improvised followers



with McGILL CAMROL® CF bearings

CAMROL CF series precision needle bearings eliminate the design, production and performance problems of improvised bolt and roller units. They are available from stock.

Hardened and ground rollers, races and OD surfaces plus a soft stud provide the right combination of hardness and toughness for long life A full complement of small diameter rollers provides high capacity in relatively small radial space. Simplified grease lubrication is provided for through the side and ends of the stud.

For accurate cam follower or track and guide roller action, plus space and cost economy, specify McGill CF CAMROL bearings.

Write for helpful Bearing Handbook No. H-54-B

engineered electrical products McGILL® precision needle roller bearings

McGILL MFG. CO., Bearing Div., 101 N. LAFAYETTE ST., VALPARAISO, IND.

▲ For more details circle NED-306 E9 on enclosed inquiry slip ▲

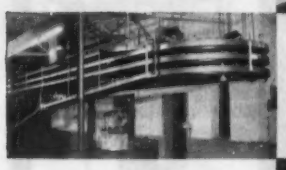
HERE'S WHAT WENDWAY CAN DO FOR YOU!

Wendway can be your "silent partner" by conveying any light products weighing 20 lbs. or less, swiftly and silently from one operation to the next. Wendway conveying systems are completely sanitary . . . safe for operators, too! Wendway will carry your products overhead, through walls, upstairs or down—to any place you want them. Wendway will eliminate wasted manpower, unnecessary handling and boost production all along the line. Standardized powered straight sections, curves, switches, etc., are operated by remote control and easily adjusted to required speeds. Wendway will smooth out your assembly processing, packing or inspection problems and pay for itself in time and equipment saved.

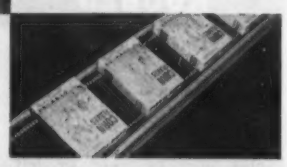
Remember ...Wendway answers your 'light product' conveying problems • Wendway complies with even the most rigid sanitation codes • Wendway synchronizes perfectly with other production line equipment • Wendway increases producton line profits.

Another interesting Wendway installation. Twin flights of wide belt Wendway operate continuously between production stations to convey air filters to inspection stations.

Wendway belting will not damage even the most delicate products. Automatic conveying assures products of cleaner, fresher, neater appearance.



Overhead cooling for cooked or heated products saves you time and floor space. Wendway takes 'em up, cools 'em off and brings them down—automatically!



Cartons, fragile packages, etc., are completely safe on Wendway. Smooth, silent travel delivers products in perfect shape, clean and fresh in appearance.

Write today for additional information, literature and specifications to match your conveying requirements.

UNION STEEL PRODUCTS CO., ALBION MICHIGAN

Gentlemen:
Please have your area distributor contact me at once.

Name _____ *Title* _____

Company _____

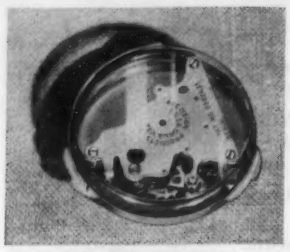
Address _____

City _____ *Zone* ____ *State* _____

The product to be conveyed is _____

▲ For more details circle NED-307 E9 on enclosed inquiry slip ▲

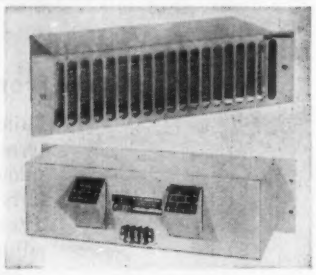
TIMING GOVERNOR
has transparent tamperproof cover



Easily attached to a variety of timing devices, this universal timing governor has a self-starting movement housed in a stainless steel case. The transparent cover is tamperproof. A small connecting drive pin connects the working mechanism to the power supply. Unit is easily removed for servicing. Made by **Precision Products, Inc.**, 530 S. Quaker, Tulsa 20, Okla.

▲ For more details circle NED-308 E9 on enclosed inquiry slip ▲

DUAL CENTRIFUGAL BLOWER
for cooling electronic equipment



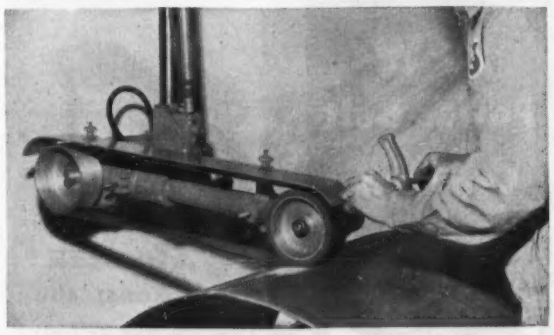
Computers, control panels, telemetry cabinets, consoles, and other equipment packed with tubes, power supplies, and heat-generating components are effectively cooled by this dual centrifugal blower. Units fit 19-in. racks and deliver 150 to 500 cfm of air. Panel heights range from 3½ to 8¾ in. in 1¾-in. increments. Capacitor type motors are available for 60 or 400-cycle, single or three-phase current. Made by **McLean Engineering Laboratories**, Princeton, N. J.

▲ For more details circle NED-309 E9 on enclosed inquiry slip ▲

WATER CONDITIONER
inactivates damaging elements

When connected in a water line, the Karlson water conditioner automatically meters Karlsonite nontoxic phosphate into the water. The water soluble compound suspends and inactivates elements which are harmful to commercial and industrial equipment. The conditioning device has no moving parts, is made in several capacities, and withstands 1500 psi. Only maintenance required is replacement of the Karlsonite in a transparent plastic cartridge. It prevents the precipitation of calcium and magnesium salts in water and is harmless to all metals. The pH is not changed. Made by **Stiles-Karlsonite Corp.**, 1550 Grand Ave., Waukegan, Ill.

▲ For more details circle NED-310 E9 on enclosed inquiry slip ▲



UNMATCHED IN ITS ADAPTABILITY

The effortless ease with which a weld seam is removed by the G & P 6-72 Belt Unit is just an example of this tool's adaptability. Whether suspended or on a stand there is almost constant work in any shop for this handy machine. It is simple in design, large in capacity, has unusual mobility and can be used for machine or off-hand finishing. Write for Price List and Bulletin No. 104.

Grinding and Polishing Machinery Corp.
SUCCESSORS TO VONNEGUT MOULDER CORPORATION
2630-J WINTHROP AVENUE, INDIANAPOLIS 5, INDIANA

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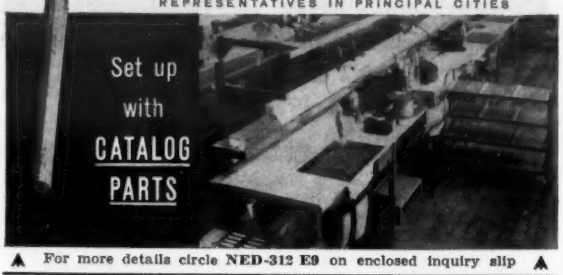
Plan with IMAGINATION UNLIMITED

PRODUCT-A-FLOW Modular Work Stations

Free your layout planning from conventional bench limitations. Develop the layout to solve your problems of space, time and motion economy...and set it up with standard Product-A-Flow catalog parts. It's easy! Three types of telescoping members frame any configuration and form many modular accessories. Other modular accessories include shelving, lighting, conveyors, circuitry, piping...and there are drawers, pocketbook holders, etc. All elements positioned where wanted. Layouts readily modified or changed. Lift-out worktops. Send for bulletin 158.

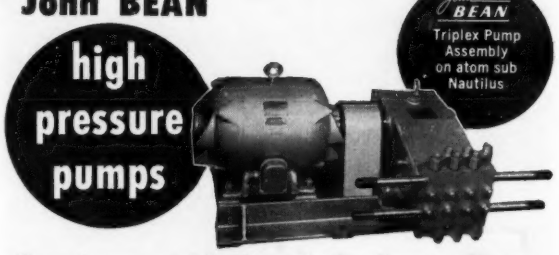
PRODUCT-A-FLOW 3
PRODUCTS FOR INDUSTRY
1530 Summer Street • Stamford 6, Connecticut • DAvis 4-4256
REPRESENTATIVES IN PRINCIPAL CITIES



▲ For more details circle NED-312 E9 on enclosed inquiry slip ▲

for PRESSURES to 6000 lbs. TEMPERATURES to 300° F.

John BEAN



Rugged, compact John Bean Triplex Pumps are the answer for high pressure pumping applications, among them coolant pumping in atomic reactors. Pressures range from 1000 to 6000 psi, fluid temperatures to 300° F. Important design features include:

- Lifetime Sapphite plungers
- "Roto-splash" drive end lubrication
- Distortion-free cast iron housings
- Free-acting ball-type valves, replaceable valve seats

also: John Bean vertical duplex pumps — pressures to 1000 psi, temperatures to 200° F.

Send information request form — today!

John BEAN Division of Food Machinery and Chemical Corporation
INDUSTRIAL SALES DEPT.
LANSING 4, MICHIGAN SAN JOSE 1, CALIFORNIA

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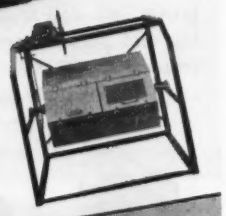
H. W. Kramer
YOUR KEY TO BETTER FINISHING...

BUFFING LATHE

1 to 10 H.P. Ball Bearing V-Belt Drive. Pre-determined speed set at factory or to your specifications. Buffing wheels and compounds available for every industry . . . Special compounds recommended for Special applications.

SINGLE BARREL TUMBLER

Size: 30" x 36" or engineered to your specifications. Barrels lined with kiln-dried and glued maple. Child's play to operate. Economical on space as motors are individually mounted overhead—double decked or single. Tumbling supplies available also.

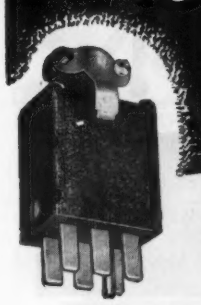


Write Dept. 12 for Detailed Information

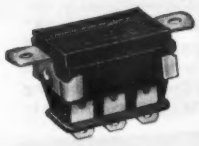
H. W. KRAMER CO.
120-30 JAMAICA AVENUE
RICHMOND HILL 18, N. Y.

▲ For more details circle NED-314 E9 on enclosed inquiry slip ▲

FOR PUBLIC ADDRESS, RADIO, and kindred fields, specify JONES 400 SERIES PLUGS AND SOCKETS of proven quality!



S-406-AB



P-406-CCT

Double Contact Area

Phosphor bronze knife-switch socket contacts engage both sides of flat plug contacts.

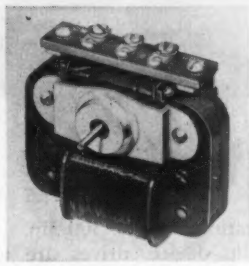
Socket contacts phosphor bronze, cadmium plated. Plug contacts hard brass, cadmium plated. Insulation molded bakelite. Plugs and sockets polarized. Steel caps with baked crackle enamel. 2, 4, 6, 8, 10, 12 contacts. Cap or panel mounting.

Information on complete line, in Jones Catalog 22: Electrical Connecting Devices, Plugs, Sockets, Terminal Strips. Write.

Jones HOWARD B. JONES DIVISION
CINCH MANUFACTURING COMPANY
CHICAGO 24, ILLINOIS
DIVISION OF UNITED-CARR FASTENER CORP.

For more details circle NED-315 E9 on enclosed inquiry slip

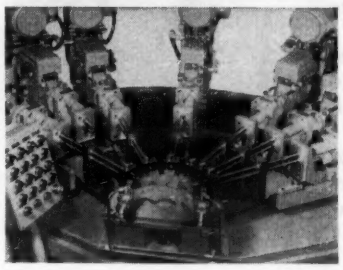
TACHOMETER GENERATOR voltage is proportional to speed



Requirements of an alternating current tachometer or rate generator are fulfilled by this reversible shaded-pole motor. With rated alternating current voltage applied to the main winding, a voltage is generated in the shaded windings which is proportional to the speed at which the rotor is driven. Voltage is almost linear from 1000 to 3000 rpm in the Type AYAE unit. Generated voltage from a typical rate generator with low impedance shading coils is 2 v per 1000 rpm. This can be increased to 10 v per 1000 rpm by using coils of higher impedance. Samples are $17.50 each. Made by **Barber-Colman Co.**, Small Motors Div., 1300 Rock St., Rockford, Ill.

For more details circle NED-318 E9 on enclosed inquiry slip

QUILL-TYPE DRILL UNITS for single or multiple spindle use



Almost any hole pattern can be drilled with various setups of these self-contained hydraulic drill units. Adaptable to single or multiple spindle uses, drill units have 9 and 12-in. strokes and up to 5-hp capacity. They can also be furnished with step and repeat action. The seven-unit setup shown for drilling 3600 brake bands per hour can drill 121 different hole patterns. Units can be moved left or right, and forward or back for desired pattern. Hole depth is drilled to ±0.0005-in. accuracy. Made by **Drillunit, Inc.**, 3267 Wight St., Detroit 7, Mich.

For more details circle NED-319 E9 on enclosed inquiry slip

HOIST HOOK SAFETY LATCH for 1/4 to 3-ton capacity hooks

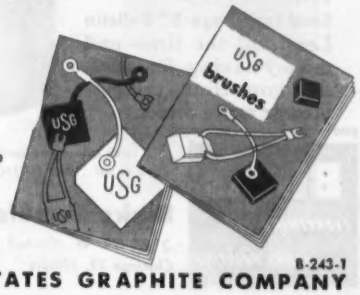
This safety latch for hoist hooks prevents accidental detaching and dropping of loads. Device consists of a ductile alloy clamp-on collar and a spring-loaded safety latch which fits into hook opening. A stainless steel spring provides constant pressure between latch and hook. Latch is also notched on its free end to prevent shifting from locked position. Four sizes for 1/4 to 3-ton hooks are available. Made by **Harrington Co.**, Gravers Road, Plymouth Meeting, Pa.

For more details circle NED-320 E9 on enclosed inquiry slip

USG. BRUSHES

The solution to many major or minor brush problems can be solved with United States Graphite Company's USG Brushes. The shunt connections are permanent. Sizes are accurate for each application from fractional horsepower to locomotive diesel generator. Grades include carbon, carbon-graphite, electrographilitic, graphite, metal-graphite and silver graphite.

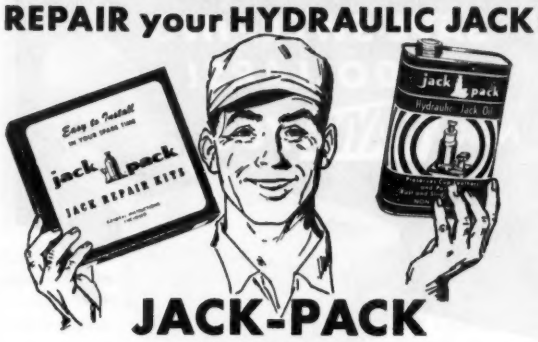
There is helpful, useful data in the complete but CONCISE USG Brush catalog B-56 and the USG grade list. Write for your copies today.



B-243-1

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN

Here's ALL YOU NEED to REPAIR your HYDRAULIC JACK!



JACK-PACK
HYDRAULIC
JACK REPAIR KITS & JACK OIL

JACK-PACK repair kits contain easy-to-follow instructions and all the packings necessary to make your jack work like new. And, be sure to use JACK-PACK hydraulic jack oil. It's the only oil with complete instructions for filling and bleeding your jack on the can.

ALL MAKES ALL MODELS

Save Money...Try a JACK-PACK!
- No more big jack repair bills.
- No more high freight charges.
- No more long equipment tie-ups.

Write today for free folder:

jack pack MFG. COMPANY
2115 No. Marianna Ave., Los Angeles 32, Calif.

ORDER FROM YOUR JOBBER!

For more details circle NED-316 E9 on enclosed inquiry slip

Tempilstik°

temperature indicating crayons*

*Also Tempil° Pellets and Tempilaq° (liquid form)

Tempilstik°—a simple and accurate means of determining preheating and stress relieving temperatures in welding operations. Widely used in all heat treating—as well as in hundreds of other heat-dependent processes in industry. Available in 80 different temperature ratings from 113°F to 2500°F . . . $2.00 each.

Send for free sample Tempil° Pellets. State temperature desired . . . Sorry, no sample Tempilstiks°.

Most industrial and welding supply houses carry Tempilstiks° . . . If yours does not, write for information to:

ADVERTISING DIVISION

Tempil° CORPORATION
132 West 22nd St., New York 11, N. Y.

For more details circle NED-321 E9 on enclosed inquiry slip

GRIPPER® woven wire SLINGS

here's SAFETY for any lifting job

No weak links to break . . . no thin strands to snap . . . no soft core to rot . . . nothing to tear suddenly and drop the load. That's the safety story of Gripper Slings. Spiral wire construction also gives the Gripper Sling complete flexibility to hold any sized load in a firm, yet gentle, grip. And, Gripper Sling's smooth, broad bearing surface won't cut or score stock . . . practically eliminates load damage.

Gripper Slings, pretested to meet load specifications are available in standard lengths and widths with capacities up to 100,000 lbs. Special sizes, alloys or Neoprene or PVC covered slings available. Write for FREE CATALOG and name of your nearest materials handling distributor.

The Cambridge Wire Cloth Co.
Department C • Cambridge 5, Md.

For more details circle NED-317 E9 on enclosed inquiry slip

Spray paints direct from original containers

Binks "Pogo 5" air operated pump unit with agitator eliminates the mess, time and waste of mixing and transferring paint. You pump directly from original 5-gallon containers to one or two spray guns.

Send for "Pogo 5" Bulletin
Learn all the time- and money-saving features. Ask your Binks distributor or write direct.

Binks
EVERYTHING FOR SPRAY PAINTING

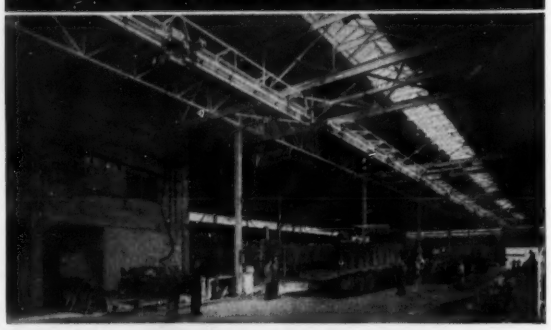
Ask about our spray painting school
Open to all...NO TUITION...covers all phases.

Binks Manufacturing Co.
3122-34 W. Carroll Ave.
Chicago 12, Illinois

REPRESENTATIVES IN PRINCIPAL U.S. & CANADIAN CITIES • SEE YOUR CLASSIFIED DIRECTORY

▲ For more details circle NED-322 E9 on enclosed inquiry slip ▲

What a Wonderful Warehouse!



7 Cranes interlock...Span 6 bays 340 ft. long!

Here's a metal distributing warehouse with no unloading docks! Seven American Monorail cranes unload directly from an indoor railway siding along one wall and from a 3-lane truck driveway thru the center of the building.

Transfer of loads from bay to bay poses no problem. All cranes interlock at fixed transfer points to allow swift transfer of stock to any point in any direction throughout this 340 ft. x 300 ft. warehouse!

A Monorail system can streamline your handling. Write for free literature.

AMERICAN MONORAIL
13116 ATHENS AVENUE
CLEVELAND 7, OHIO

▲ For more details circle NED-323 E9 on enclosed inquiry slip ▲

SAVE STORAGE SPACE

SAVE HANDLING TIME

Brown Sectional Stock Racks store more stock in less space. Handling is reduced to a short lateral movement instead of a long laborious end-haul.

Brown Racks are unique in both flexibility and economy. Spaced as required they can be easily relocated . . . they are neither cross-braced nor floor-bolted. Accessories, including base brackets and trays, increase usefulness.

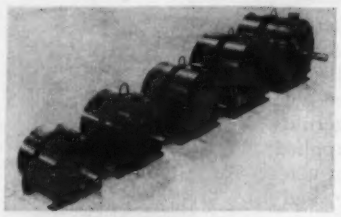
Brown Racks are quickly installed, all components are slip-fitted together. No bolting, no tools.

WRITE TODAY for complete information on how low-cost Brown Stock Racks can help solve your storage problems. Brown Engineering Company, 129 No. 3rd Street, Reading, Pennsylvania.

BROWN *Flexible* STOCK RACKS

▲ For more details circle NED-324 E9 on enclosed inquiry slip ▲

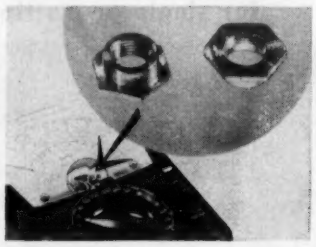
MAGNETIC DRIVE
10 to 29-hp units added to line



Line of Ampli-Speed adjustable speed magnetic drives has been enlarged to include smaller Model MDM-11. It is available in 10 to 29-hp ratings. Balance of line covers ratings up to 300 hp. Technically, an eddy-current slip device, drives are used as speed changers, connecting a constant speed motor and a load which requires variable speed. Control circuit holds a preset speed to within ±2 per cent. Control is adaptable to automatic operations sensing temperature, flow, and/or pressure. Made by **Electric Machinery Mfg. Co.**, 800 Central Ave., Minneapolis 13, Minn.

▲ For more details circle NED-325 E9 on enclosed inquiry slip ▲

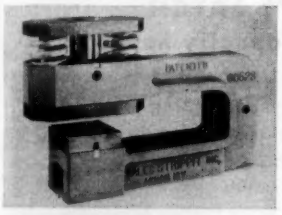
MINIATURE PRECISION NUTS
in various types, shapes, and sizes



Known as "jewel" nuts because of their size and accuracy, these miniature turned fasteners are supplied to specifications with standard or special thread of No. 0 or larger, and diameters as small as 1/8 in. hexagon. Lengths and diameters are held to +0.000 in., −0.005 in. A range of types, shapes, and sizes is offered for use in precision instruments and miniaturized equipment. Photo shows two 0.100-100 shoulder nuts used in a testing instrument pointer assembly. Made in minimum lots of 5000 pieces by **Fischer Special Mfg. Co.**, 461 Morgan Ave., Cincinnati 6, Ohio.

▲ For more details circle NED-326 E9 on enclosed inquiry slip ▲

HOLE PUNCHING UNIT
press-actuated type has dual range

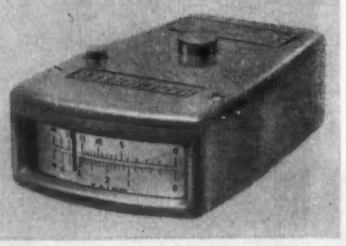


Single heavy duty holder of the dual range Strippit press-actuated hole punching unit can be quickly changed from a 0.250-in. to 0.750-in. mild steel capacity by changing stripping mechanisms. It has a removable punch assembly and two lift-out stripping springs. With mechanical springs stripping pressure is suitable for the lower capacity work. By replacing these springs with Hydra-Springs, stripping pressure is increased sixfold for heavier work. Units also feature removable round, obround, square, or shaped punch tips and dies. Made by **Wales-Strippit, Inc.**, 227 S. Buell Rd., Akron, N. Y.

▲ For more details circle NED-327 E9 on enclosed inquiry slip ▲

Measures Nonmagnetic Coatings with ± 5% ± .0001" accuracy

NEW pocket-size THICKNESS GAUGE



ELCOMETER measures thickness of porcelain enamel, paints, platings, foils, glass, paper, plastics, and other nonmagnetic coatings quickly and accurately. Gauges flat or curved surfaces and hard-to-get-at spots easily. Needle locking device assures correct reading every time. Complete with tough leather case, containing inner pocket for test strips, and carrying harness. Weighs only 6 oz.

FREE TRIAL. Ask your purchasing agent to order an Elcometer on trial basis. Retail price, F.O.B. Cleveland **ONLY $78.75**

FERRO
FERRO CORPORATION
4151 East 56th Street • Cleveland 5, Ohio

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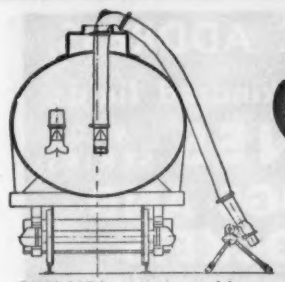

TANK CAR is easily freed of fumes for workers' safety.

CHEMICAL STILL is here ventilated while being repaired.

KEEP AIR FRESH
in confined places with COPPUS *Design "A" Ventilator*

Improve workers' safety—health—comfort—efficiency. Get rid of dangerous gases, fumes, stagnant air. Coppus Design "A" Ventilator ventilates tanks, tank cars, drums, vats, underground cable manholes, pipe galleries, airplane wing compartments, fuselages. For complete information, write Coppus Engineering Corporation, 405 Park Ave., Worcester 2, Mass. Sales Offices in *Thomas' Register.*

Other "Blue Ribbon" Products in *Chemical Engineering Catalog, Refinery Catalog, Best's Safety Directory* and *Mining Catalogs.*

ANOTHER COPPUS "BLUE RIBBON" PRODUCT

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Here is sweeping made fast, easy and economical!

This all new Wayne 703 Power Sweeper cleans up to 40,000 square feet per hour, indoors or out...digs in and digs out the dirt...fills its filtered hopper to its full 3 cubic foot capacity... maneuvers in and out of tight spots everywhere.

Eliminate costly hand sweeping in congested areas, get *cleaner* sweeping, and sweep many times more area day in and day out for pennies per hour! Write, today, for full details on this new Wayne 703—*the little sweeper with the big performance features!*

Priced for Small Budgets • Filter-Vac Dust Control
Fingertip Controls • Fully Powered • Forward-Reverse Travel • Rider Attachment • Streamlined

WAYNE MANUFACTURING COMPANY
2374 EAST LEXINGTON STREET, POMONA, CALIFORNIA
Pomona • Chicago • Newark • Export: Henry R. Jahn & Sons, Inc., New York

▲ For more details circle NED-330 E9 on enclosed inquiry slip ▲

NEW OHIO XN SPOTWELD NUT
FOR FASTER AND BETTER JOINING OF YOUR PRODUCT COMPONENTS

This nut which is applied by portable, rocker arm or press type spot welders becomes the primary fastener in your fastener assemblies. It offers these distinctive advantages:

- **LIGHTNING-FAST APPLICATION** (By spot welding)
- **PRIMARY FASTENER PERMANENTLY POSITIONED** (No retapping required)
- **SPLIT-SECOND ASSEMBLY OF PRODUCT COMPONENTS** (Made possible by pre-attached primary fastener)
- **SHIPMENT FROM STOCK**

Samples and information furnished upon request.

The OHIO WELD FASTENERS Primary Fastener in Fastener Assemblies

THE OHIO NUT AND BOLT CO.
14 FIRST STREET BEREA, OHIO

▲ For more details circle NED-331 E9 on enclosed inquiry slip ▲

For use wherever threaded connections are subjected up to 1800° F. temperatures such as boiler, manhole, face plate studs, cylinder heads, and manifold studs or flange bolts on high temp steam lines and pumps.

Try C-5 and see why manufacturers, refiners and power producers have made it a part of their regular preventative maintenance program.

fel-pro C5 "HIGH-TEMP"

- ✓ Ends Seizing and Galling even up to 1800°F.
- ✓ Reduces Wrench Torque
- ✓ Ends Stud Breakage
- ✓ Permits Repeated Re-use
- ✓ Speeds Assembly and Disassembly
- ✓ Protects Stainless Steel at all Temperatures

1614BR

ANTI-SEIZE THREAD COMPOUND

C-5's exclusive colloidal copper formula separates mating metal threads and surfaces with cushioning, protective copper plating. C-5 prevents galvanic action and eliminates pitting even when dissimilar metals join. On mating metal surfaces, C-5 saves gaskets and countless man hours.

WRITE TODAY . . . For Your FREE Test Sample Can of C-5.

FELT PRODUCTS MFG. CO.
Dept. 68, P. O. Box 8609, Chicago 80, Ill.

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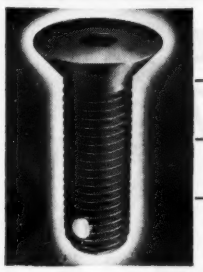


Increase the reliability of thin-section assemblies with Self-Locking UNBRAKO Flat Head Socket Screws

An UNBRAKO with Nylok* is a simple, practical means to greater fastener reliability. Unlike ordinary threaded fasteners, it will not work loose—eliminates a common cause of breakdowns and customer complaints. This 1-piece, self-locking unit requires no auxiliary devices, takes no extra time or labor to install. The tough, resilient nylon pellet forces mating threads together—locks the screw securely at any point, whether seated or not.

See your authorized UNBRAKO industrial distributor for details—he carries a full line of self-locking UNBRAKO products. Or write us for literature and samples. Unbrako Socket Screw Division, STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

*T.M. Reg. U.S. Pat. Off., The Nylok Corporation

We also manufacture precision titanium fasteners / write for free booklet

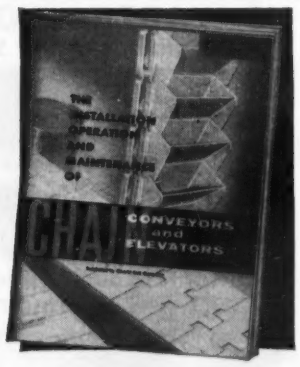
sps Jenkintown • Pennsylvania

Standard Pressed Steel Co. • The Cleveland Cap Screw Co. • Columbia Steel Equipment Co. • National Machine Products Co. • Nutt-Shel Co. • SPS Western • Standco Canada Ltd. • Unbrako Socket Screw Co., Ltd.

▲ For more details circle NED-333 E9 on enclosed inquiry slip ▲

FREE MANUAL

How to extend conveyor life



Here are the facts on how to install, operate, maintain and extend the life of your conveyor chain.

These are the do's and don'ts the experts follow—the procedures that insure against costly down time and premature replacement. Send for FREE MANUAL today.

CHAIN BELT

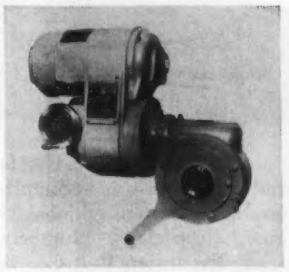
CHAIN Belt Company 59-118
4686 W. Greenfield Ave., Milwaukee 1, Wis.
(In Canada: CHAIN Belt (Canada) Ltd., 1181 Sheppard Ave. East, Toronto)

☐ Please send free manual on care and maintenance of conveyor chains.
☐ Have a Rex Man call.

Name _____
Address _____
City _____ Zone ____ State ____

▲ For more details circle NED-334 E9 on enclosed inquiry slip ▲

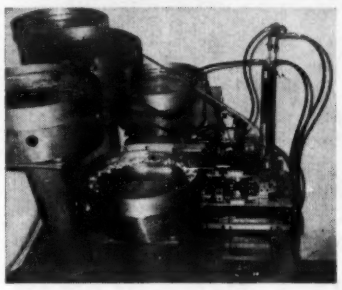
VARIABLE SPEED DRIVE
shaft-mounted 1/4 to 3-hp units



Shaft - mounted mechanical, variable speed drive is designed for those applications where space limitations dictate that the output shaft be at right angles to the transmission. Mounted directly on the drive shaft, the compact drive is offered in drip-proof or totally-enclosed constructions rated from 1/4 to 3 hp. Speeds range from 360 to 5.2 rpm and speed variations from 2:1 to 10:1. Various electrical and mechanical modifications are available. Made by **Sterling Electric Motors, Inc.**, 5401 Telegraph Rd., Los Angeles 22, Calif.

▲ For more details circle NED-335 E9 on enclosed inquiry slip ▲

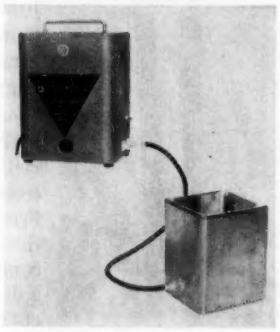
VIBRATORY PARTS FEEDERS
12, 18, 24, and 36-in. bowl sizes



Fast, smooth feeding of parts to automatic machines is achieved by line of Automator vibratory parts feeders available in standard bowl diameters of 12, 18, 24, and 36 in. Bowls are made of cast aluminum, magnesium, stainless steel, or plastic. Torque motor vibrates bowl to feed parts at the cycle rate of the input alternating current. Rheostat controls feed rate from zero to full capacity. Made by **General Automation**, 538 Toluca Park Dr., Burbank, Calif.

▲ For more details circle NED-336 E9 on enclosed inquiry slip ▲

ULTRASONIC CLEANER
can operate two transducers

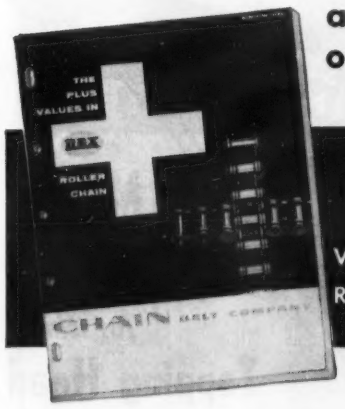


Selector switch which permits the operation of two tanks in a double cleaning step or with two different solutions is a feature of the Ultracleaner 60 ultrasonic cleaner. A load selector switch allows use of two submersible transducers in a 5-gal tank at the same time. Only controls are an on-off switch and a single frequency tuning dial. The 3/4-gal transducerized tank measures 6 x 6 x 6 in. The 9-lb, 40-kc generator can be hung on a wall. Price is $175. Made by **Lawrence Mfg. Corp.**, Belleville, N. J.

▲ For more details circle NED-337 E9 on enclosed inquiry slip ▲

GET BULLETIN 5725

and find out about...



THE PLUS VALUES IN REX ROLLER CHAIN

Yes, find out about the special design and manufacturing techniques that make an important difference...*put a plus value* in Rex Roller Chain. Learn about the rigid quality control that gives you a better chain...consistently.

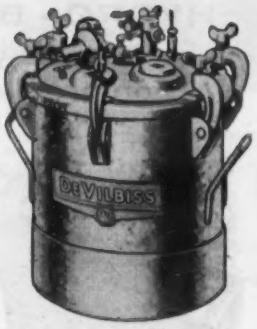
Bulletin 5725 explains why Rex Roller Chains last longer ... why Rex Roller Chains have greater resistance to fatigue and failure. Write today for your copy of Bulletin 5725, "The Plus Values in Rex Roller Chain." CHAIN Belt Company, 4686 West Greenfield Avenue, Milwaukee 1, Wisconsin.

CHAIN Belt, (Canada) Ltd., 1181 Sheppard Ave. East, Toronto, Ontario

CHAIN BELT

▲ For more details circle NED-338 E9 on enclosed inquiry slip ▲

PRESSURE-FEED TANKS provide simple, foolproof supply system for paints, liquids



DeVilbiss Pressure-Feed Tanks are the simplest and most economical means of supplying fluids to spray guns and other devices at accurately regulated pressure. There are no working parts to get out of order . . . next to no air is required for operation . . . and they are built to last indefinitely.

One-piece, full-drawn, galvanized tanks. Coated to prevent rust or corrosion. Available with hand or motor-driven agitation. In 2-, 5-, 10-, or 15-gallon sizes. Call your DeVilbiss supplier, or write for Form I-3201.

DEVILBISS

THE DEVILBISS COMPANY
Toledo 1, Ohio
Branch Offices in Principal Cities

▲ For more details circle NED-339 E9 on enclosed inquiry slip ▲

- INCREASE ACCURACY
- REDUCE REJECTS
- SPEED SETUPS
- CUT COSTS WITH...

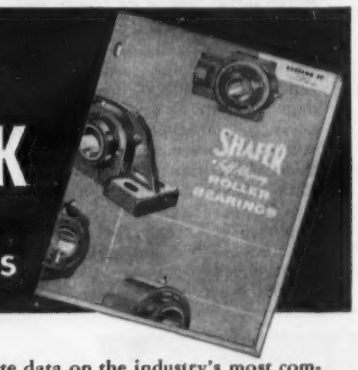
MACHINE PRODUCTS PRECISION EQUIPMENT

You'll hold closer tolerances and increase efficiency, too, when you use Machine Products precision surfaces. Because the combination of superior materials, skilled craftsmanship and rigid quality controls in the manufacture of Machine Products equipment assures you of the precise dimensional accuracies you require. A complete line of plates and accessories is available, so send for your free catalog today.

MACHINE PRODUCTS CORPORATION
6771 E. McNichols Rd. • Detroit 12, Michigan

▲ For more details circle NED-340 E9 on enclosed inquiry slip ▲

FREE BOOK ON BEARINGS



Gives you complete data on the industry's most complete line of mounted roller bearings—Shafer.

This new Shafer catalog is compiled specifically to help you meet the increased responsibilities of building greater speed, higher load capacities and longer life into your equipment.

It is packed with factual information on roller bearing design—specifications, lubrication, seals and installation features that protect your equipment. Send for your free copy. CHAIN Belt Company, 4686 W. Greenfield Avenue, Milwaukee 1, Wis. In Canada: CHAIN Belt (Canada) Ltd., 1181 Sheppard Ave., East, Toronto.

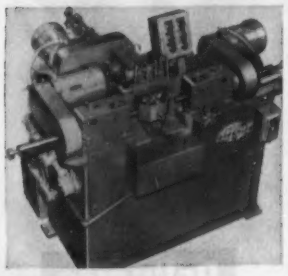
SHAFER® BEARINGS

CHAIN BELT

▲ For more details circle NED-341 E9 on enclosed inquiry slip ▲

HYDRO - BORER UNIT

Lowers your costs on precision boring



In the special application shown at the left, aluminum die castings are precision bored by three Greenlee S-6 Hydro-Borers mounted on a welded steel base. Greenlee can help you reduce your boring costs. Write for further information.

GREENLEE BROS. & CO.
1701 MASON AVE.
Rockford, Illinois

▲ For more details circle NED-342 E9 on enclosed inquiry slip ▲

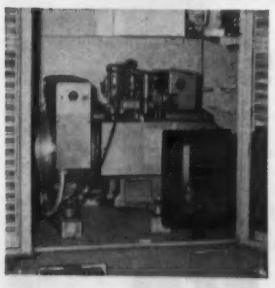
Onan NEWS REPORT

How to provide electric power for ice cream stores that move!

Mister Softee mobile ice cream vans are as fully electrified as a store with utility connections. Ice Cream freezers, air conditioner, lights, fans . . . even the heater that keeps "Hot Fudge" hot are operated by electric power.

The Onan 10KW electric plant supplies all current required with a generous reserve for future electrical loads. It is mounted at the rear of the truck in an easily accessible compartment. Onan's Vacu-Flo cooling keeps the compartment ventilated . . . delivers all heated air to the outside. Over 300 of these Mister Softee vans are now in operation.

Where you need electric power on mobile units . . . an Onan electric plant will provide service with dependability approaching that of the electric utility. 500 to 200,000-watt models. Gasoline or Diesel.



Onan 10KW, CW Series plant shows simple, accessible installation. Two-cylinder, gasoline engine is smooth-running and quiet.

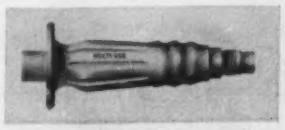
Onan builds Vacu-Flo cooled electric plants from 500 to 10,000 watts. Water-cooled gasoline-powered models from 10 to 150KW; Diesel-powered from 3 to 200KW.

Need specific information for your particular job? Call the Onan distributor listed in your phone book or write direct.

D. W. ONAN & SONS INC. Onan ELECTRIC PLANTS
3169 University Ave. S.E., Minneapolis 14, Minnesota
ELECTRIC PLANTS • AIR-COOLED ENGINES • KAB KOOLER • GENERATORS

▲ For more details circle NED-343 E9 on enclosed inquiry slip ▲

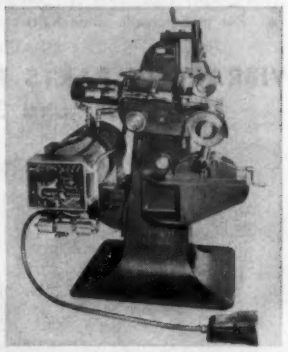
FASTENER DRIVING TOOL
drives various fasteners in masonry



Drive pins, threaded studs, wire loop fasteners, and Drilfast self-drilling anchors can be hammered into concrete, stone, brick, and other masonry materials using this Multi-Use fastening tool. Low in cost and safe to use, it accomplishes many light and medium-heavy fastening jobs when used by maintenance men, electricians, plumbers, and others. Made by **U. S. Expansion Bolt Co.**, 600 State St., York, Pa.

▲ For more details circle NED-344 E9 on enclosed inquiry slip ▲

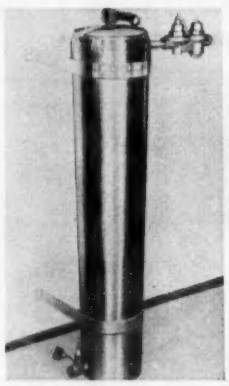
CUTOFF MACHINES
for pipe and tube to 12¾-in. OD



JIC electronic and hydraulic components built into the 1959 line of rotary cutoff machines enable them to achieve production cutting rates on light gage tubes or heavy walled pipes. Machines feature fast wheel approach to the work, precision control of cutting, and rapid return of the wheel. Thin wall tubing is cut without toe-in of the cut edge. The hydraulic power check achieves a smooth cutting stroke by uniformly regulating cutting pressure on wheel and work. Machines cut pipe and tubes from ⅜ to 12¾-in. OD and from light gage to ½-in. wall thickness. Made by **Continental Machine Co.**, 2345 W. Nelson St., Chicago 18, Ill.

▲ For more details circle NED-345 E9 on enclosed inquiry slip ▲

WATER DEIONIZER
delivers up to 120 gph



When effluent resistance falls below 50,000 ohms in the Junior 120 deionizer, a built-in ohmmeter and signal indicates a need for resin change. Spent bags of mixed ion exchange resin are replaced with fresh material, and the spent material is returned in furnished containers for regeneration. Fresh material is returned to the user, ready for use. The compact unit delivers up to 120 gph of deionized water. Made of stainless steel, it is 45 in. high and connects into the water supply line. It delivers between 6300 and 8400 grains exchange or up to 1500 gal per cycle. Made by **Elgin Softener Corp.**, 134 N. Grove Ave., Elgin, Ill.

▲ For more details circle NED-346 E9 on enclosed inquiry slip ▲

MORE REACH *for the* Tapping Head

You can machine tap in deep holes and awkward locations with ordinary, standard taps *plus Walton's NEW "Style B" Extensions.* Single units fit together to make a rigid, closely aligned assembly, for either machine or hand tapping operations.

Adaptable to all standard taps from #0 to ½". A complete, boxed set of 9 tools lengthens taps from 8" to 28¼". Eliminates the need and cost of expensive, "long" taps.

Write for Specifications and Data Sheet #26. These new extensions will be sent for 30 days Free Trial, if requested.

SINCE 1908 WALTON TOOLS HARTFORD, CONN.
THE WALTON CO. HARTFORD 10, CONN.

▲ For more details circle NED-347 E9 on enclosed inquiry slip ▲

FICTION and FACT

FICTION: Paint Overspray Control Requires Complicated and Expensive Maintenance Procedure.

FACT: An RP Paint Arrestor Equipped Booth Can Be Changed In Minutes By Inexperienced Personnel.

Photo Courtesy Burnaby Blinds Ltd., Winnipeg, Canada

RP PAINT ARRESTORS

Inexpensive R P Paint Arrestors are easily replaced in a short time to provide like-new paint overspray removal efficiency, with minimum down-time, at a fraction of usual maintenance costs. Economical original installation, too—and adaptable to almost every type operation, R P Paint Arrestors can cut costs, increase production in your booths, too. Write for information.

Products of Research RP
RESEARCH PRODUCTS *Corporation*
Dept. 36, Madison 10, Wis.

▲ For more details circle NED-348 E9 on enclosed inquiry slip ▲

Give your product a lift with a

WHIZ-LIFTER

MATERIALS ELEVATING MACHINE—Assures speedy, automatic bulk product elevating into hopper of a weighing or filling machine without danger of spillage or breakage! Will handle drugs, hardware, pharmaceuticals, plastics, chemicals, etc., with trouble-free efficiency.

Write for literature

FRAZIER & SON
20-01 INDUSTRIAL WEST, ALLWOOD, CLIFTON, NEW JERSEY
Designers and manufacturers of • Volumetric and Net Weighing Machines • Parts Handling Equipment • Rotary Filling Machines • Conveying & Elevating Equipment

▲ For more details circle NED-349 E9 on enclosed inquiry slip ▲

NO WASTE...NO DOWN TIME
in Continuous Roll Stock Processing!

Instantaneously splices on second roll WITHOUT STOPPING PROCESS

NO NEED to stop high-speed, complex web processing to make roll changes. Precision-built Stanford units accomplish these operations in a fraction of a second without interrupting production.

Model TO-24 Turret-Type **UNWIND STAND**
Unique dual-roll "Flying Splice" instantly attaches new roll to moving web without stopping.

Model TO-24R Turret-Type **REWIND STAND**
Dual roll Turret instantly attaches moving web to new core for continuous operation.

Fully Automatic, Semi-Automatic, or Manual action.
With or without Constant Tension Brake.
With or without Web Guide.

Ideal for Paper • Plastic Films • Foils and all other Web Materials

Write, wire, or phone WAYNE STANFORD today!

Stanford ENGINEERING COMPANY
SALEM, ILLINOIS • PHONE SALEM 553
Mfrs. of Slitters, Web Guides, Rewinding and Constant Tension Equipment

▲ For more details circle NED-350 E9 on enclosed inquiry slip ▲

Lovejoy Shaft Mounted Reducers Cost Less Than Other Reducers

Typical Lovejoy unit providing efficient speeds, ratio and hp. for sand and gravel production requirements.

- Eliminate supporting structures and shaft couplings required by conventional reducers.
- End alignment, simplify belt tensioning problems.
- Save space in any drive arrangement . . . mount vertically or at any angle.
- Install easily on new or old equipment.

Eighteen stock models: 8 to 425 rpm.; fractional to 120 hp.; 4.5:1 (single reduction), 14.7:1 (double reduction) nominal ratios.

Request prices and Catalog R-58.

LOVEJOY FLEXIBLE COUPLING CO.

4803 W. LAKE STREET • CHICAGO 44, ILLINOIS

▲ For more details circle NED-351 E9 on enclosed inquiry slip ▲

A simple, direct reading on the Alnor Velometer gives you an instant measure of air flow speed through grilles, ducts, furnaces, spray booths, or in the open.

Precision-built and self-contained, this portable instrument brings laboratory standards to the line or field installation. Available in a wide variety of scale ranges, full assortment of jets and fittings. You'll want all the facts (no safety department should be without a Velometer). Get Bulletin 2448-G. Attach this ad to your letterhead and mail to: Illinois Testing Laboratories, Inc., Room 529, 420 No. LaSalle St., Chicago 10, Illinois.

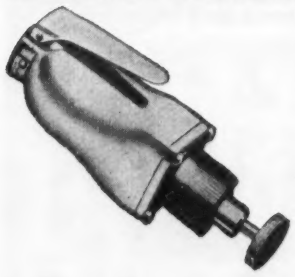
PRECISION INSTRUMENTS FOR EVERY INDUSTRY

Alnor

▲ For more details circle NED-352 E9 on enclosed inquiry slip ▲

POWER for grinding in tight places

REMINGTON MIDGET GRINDERS



Shown is Remington's Model PG-K-2022L Midget Collet Die Grinder. This is one of 8 models with speed, power and handling ease for finish grinding on dies, molds and patterns or cast and forged parts. Smallest is only 4⅝" long, ⅝" side to spindle center distance and weighs only 12 oz. Prices start at $80.00*.

You can select almost any kind of portable power tool from the Remington line. For improved toolroom efficiency, standardize on Remington—each tool carries the Remington warranty and is serviced by Remington through the most complete service-station setup of any power tool maker.

*Specifications and prices subject to change without notice. Prices slightly higher in Canada.

Mail Reader Service Card for Free Catalogs . . .

Remington

Remington Arms Company, Inc.
Bridgeport 2, Conn.
In Canada: Remington Arms of Canada, Ltd.
36 Queen Elizabeth Blvd., Toronto, Ontario.

DU PONT

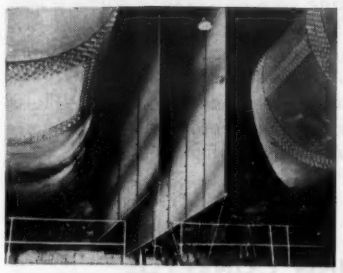
▲ For more details circle NED-353 E9 on enclosed inquiry slip ▲

BALL MILL JARS in 5-qt to 57-gal capacities

Alumina-reinforced ceramic body of Lumbard ball mill jars is reported to result in exceptionally long life. Flat gaskets seat tightly on ground surfaces of large jar opening and handwheel operated cover. Handles cemented on covers facilitate opening, sealing, or handling. Tests indicate a life three times that of porcelain jars. Sizes are 5 qt to 57 gal. Made by Paul O. Abbe, Inc., 405 Center Ave., Little Falls, N. J.

▲ For more details circle NED-354 E9 on enclosed inquiry slip ▲

HEAT SHIELDS protects personnel and equipment



Approved Ray - Foil Heat Cloth consists of aluminum sheet foil laminated to a glass fiber fabric. Because it reflects radiant heat, it gives positive protection to workmen and equipment. Flexible and easy to use as a curtain, shield, or panel, it speeds maintenance and assures safety. As a curtain it is made in 36-in. wide panels which are buttoned together to make up any length or width. Eyelets are mounted on all four sides of a panel. Also available is a knock-down type portable frame to which the curtain is attached. Made by Frommelt Industries, Box 419, Dubuque, Iowa.

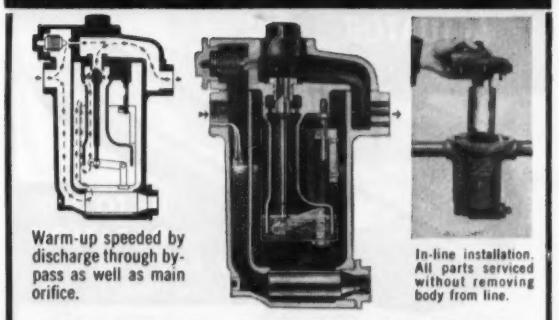
▲ For more details circle NED-355 E9 on enclosed inquiry slip ▲

DRIP SIGHT FEEDER for high pressure service

This Drip Sight Feeder is designed for use where drip feeding is required under high pressure, or for corrosive conditions. A ⅛-in. diameter drip tube extends into the upper portion of the chamber of a transparent flow indicator. Drop formation is visible to the operator. Feeder has a pressure-temperature rating of 2000 psi at 100° F and 1100 psi at 750° F. It is available with ½ or ¾-in. female or 1-in. male end connection. Chambers and covers are rustproofed. Unit can also be used as a small flow indicator. Made by Jerguson Gage & Valve Co., 80 Adams St., Burlington, Mass.

▲ For more details circle NED-356 E9 on enclosed inquiry slip ▲

Now—A Steam Trap that Adjusts Automatically to Every Operating Condition!



Warm-up speeded by discharge through by-pass as well as main orifice.

In-line installation. All parts serviced without removing body from line.

AUTOMATICALLY REGULATES FOR FASTER WARM-UP AND TO KEEP OPERATING TEMPERATURE AT PEAK HEAT

Proven bucket design with built-in accessories. By-pass thermostat increases discharge for warm-up and overload conditions. Thermostat compensated to operate at 10° below saturated steam temp. Wright-Austin Airxpel principle provides for mechanical discharge of air after Thermostatic by-pass has closed.

WRITE FOR BULLETIN 808

WRIGHT-AUSTIN COMPANY

3245 WIGHT STREET • DETROIT 7, MICH.

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LET BLACKMER SOLVE IT

Because of their unique design, Blackmer self-priming rotaries have been successful for years in overcoming high suction lifts even with thick, sticky substances or with volatile liquids, where cavitation can be serious. Whatever your pumping problem, let Blackmer solve it. Write for Bulletin One.

BLACKMER

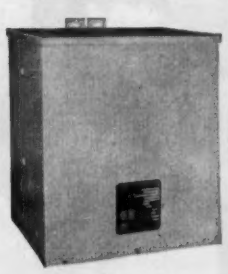
"liquids materials handling"® equipment

BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICH.

See Yellow pages for your local sales representative

▲ For more details circle NED-358 E9 on enclosed inquiry slip ▲

Class "H" INSULATED DRY TYPE TRANSFORMERS



- **LIGHTER**
- **SMALLER** • **QUIET**

Continuous Duty Service

If you're limited for space, or the installation must be made in an "awkward location", then this line of lighter weight, smaller size, transformers is the answer to your problem. Completely enclosed, drip proof design with core and coil construction featuring air paths to avoid heat build-up. Comparably lower noise level. Available ratings of 5, 7½, 10 and 15 KVA; primary voltages; 240X480, 120X240, 240, 480, 600 volts. Secondary voltages; 120/240 volts. Write for catalog.

ACME ELECTRIC CORPORATION

305 WATER STREET • CUBA, N. Y.

Acme ACME Electric TRANSFORMERS

▲ For more details circle NED-359 E9 on enclosed inquiry slip ▲

POWER that's smooth, compact, lightweight

REMINGTON AIR DRILLS

Shown is Remington's Model PD328P air drill—one of 7 models with chuck capacities from 3/16" to ½" and speeds from 2,600 rpm to 575 rpm. All have smooth, powerful, 4-vane rotary motors, built-in automatic oilers and quick-acting speed regulators. Price, Model PD328P, $120.00*, complete with geared key-type chuck and key.

You can select almost any kind of portable power tool from the Remington line. For improved toolroom efficiency, standardize on Remington—each tool carries the Remington warranty and is serviced by Remington through the most complete service-station setup of any power tool maker.

*Specifications and prices subject to change without notice. Prices slightly higher in Canada.

Mail Reader Service Card for Free Catalogs . . .

Remington

Remington Arms Company, Inc.
Bridgeport 2, Conn.
In Canada: Remington Arms of Canada, Ltd.
36 Queen Elizabeth Blvd., Toronto, Ontario.

DU PONT

▲ For more details circle NED-360 E9 on enclosed inquiry slip ▲

Drill Hardened Steels without Annealing—

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It—With "HARDSTEEL"

BLACK DRILL COMPANY, INC.
1380 East 222nd St. • Cleveland 17, Ohio

"HARDSTEEL"

▲ For more details circle NED-361 E9 on enclosed inquiry slip ▲

Quality DE-STA-CO Toggle Clamps Check Quality ROSS Valves

Ross Operating Valve subjects every valve to a rigid pressure test. And for 15 years fixtures equipped with De-Sta-Co No. 620 plunger clamps have performed this critical sealing job.

What's *your* holding or fast-clamping operation—inspection, machining, tapping, grinding, welding, bonding, fastener assembly? There is a *specific* De-Sta-Co Toggle Clamp to do it better. Fast, positive clamping, long life in grueling production have made De-Sta-Co the leader for almost 30 years. And all medium and larger models use hardened serrated pins in hardened bushings staked to avoid turning and wear. Many spindle accessories increase versatility of the clamp you specify. Our stocking distributor in your area is ready to serve you. Send for catalog now.

Portable Clamps

Angular-Bar Type

Air-Operated Type

Also De-Sta-Co stampings, washers, spacers, shims, shim stock, feeler stock, blower housings, marine specialties.

DE-STA-CO **DETROIT STAMPING CO.**
360 MIDLAND AVENUE • DETROIT 3, MICHIGAN

▲ For more details circle NED-362 E9 on enclosed inquiry slip ▲

SAVE 50%
ON YOUR ADDRESSING COSTS WITH AUTOMATIC
ROL-FLO
STENCILER

Whether you must stencil 5 cartons or 5,000 the ROL-FLO will give you uninterrupted performance.

Proper pressure on the squeezable plastic handle keeps the roller saturated and working perfectly at all times. Designed especially for those whose stenciling needs call for a greater supply of ink or where an ink pad can not be conveniently carried.

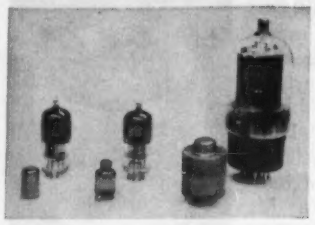
This means high speed stenciling at a saving of 50% for your production line addressing.

SEND FOR YOUR FREE COPY OF "HANDY HELPER" SHIPPING ROOM SUPPLY CATALOG

DIAGRAPH-BRADLEY INDUSTRIES, INC.
P. O. BOX 269 HERRIN, ILL.

▲ For more details circle NED-363 E9 on enclosed inquiry slip ▲

ELECTRON TUBES
thimble-size units withstand shock, temperature extremes



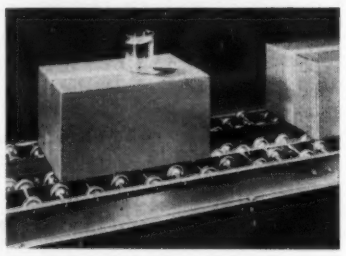
High - performance, thimble - size electron tubes of improved reliability and efficiency are now mass produced. In advanced development stages, these Nuvistors have anticipated lifetimes of tens of thousands of hours. They are suitable for many types of military and airborne electronic systems, television, and high-speed data-processing equipment.

Nuvistors have a strong ceramic base-wafer platform on which an array of tube electrode assemblies is erected. Each assembly is held rigidly in place by a tripod-like structure. In tests, Nuvistors have functioned normally in an electronic circuit when placed alternately in the heating coils of a 660° F furnace and in liquid nitrogen (320° F below zero).

Tubes are shown beside their larger present-day counterparts. Left to right are a small-signal triode, small-signal tetrode, and a beam power tube. These units are available as developmental samples. Made by **Radio Corp. of America**, Electron Tube Div., 415 S. Fifth St., Harrison, N. J.

▲ For more details circle NED-364 E9 on enclosed inquiry slip ▲

PRESSURE-SENSING CONVEYOR
belt which replaces center wheels controls accumulating and spacing



A-P-C (for adjustable pressure control) conveyor is basically a wheel conveyor equipped with a 4-in. rubber belt which replaces the center load - bearing wheels to provide power. The pressure-sensing unit can be adjusted to meet weight, size, and other handling requirements in accumulating and transporting any containers. Speeds range from 65 to 100 fpm, with 65 fpm standard.

System of trigger wheels linked with pressure wheels control the stopping and starting of the cartons by raising and lowering the belt. Line of containers can be stopped at any point by fingertip pressure without shutting down the system, preventing cumulative line pressure, buckling, and consequent spilling.

Mechanism also makes possible "singulating," or spacing the containers when the accumulated load is put in motion. Conveyor is available in 5 and 10-ft sections with a minimum length of 15 ft. Maximum length is 200 ft, and maximum loading is 50 lb per lineal foot. Made by **Rapids-Standard Co.**, 342 Rapistan Bldg., Grand Rapids 2, Mich.

▲ For more details circle NED-365 E9 on enclosed inquiry slip ▲

SOLVE ROTARY MOTION PROBLEMS

- SAFE, LEAKPROOF PERFORMANCE
- BUILT IN CUSHIONS
- OIL, AIR, WATER OR GAS
- Transfer Mechanisms
- Indexing
- Positioning
- Valve Operation
- Cam Actions

SEND FOR NEW BULLETIN RA-500 Complete Details and specifications. All essential design data. Send today!

CARTER CONTROLS, INCORPORATED
2876 Bernice Road, Lansing, Ill.
Phones: Lansing—GRanite 4-3305 • Chicago—BAyport 1-7186

▲ For more details circle NED-366 E9 on enclosed inquiry slip ▲

NEW! Portable Electric Bag Closing Machine

HERE is a handy little machine that makes bag closing fast, easy, and economical. It is recommended where operations are limited or intermittent and do not justify installation of large, high production machines.

LIGHTWEIGHT — 9½ pounds. Carry it anywhere. No installation; requires only an electrical outlet.

POWERFUL—Exclusive top and bottom feed for greater power and production. Direct drive motor with thumb control button.

VERSATILE — Closes bags made of cotton, burlap, jute, multiwall paper, laminated paper. Produces two-thread stitch Type 401, or can be furnished to produce single-thread chain stitch Type 101.

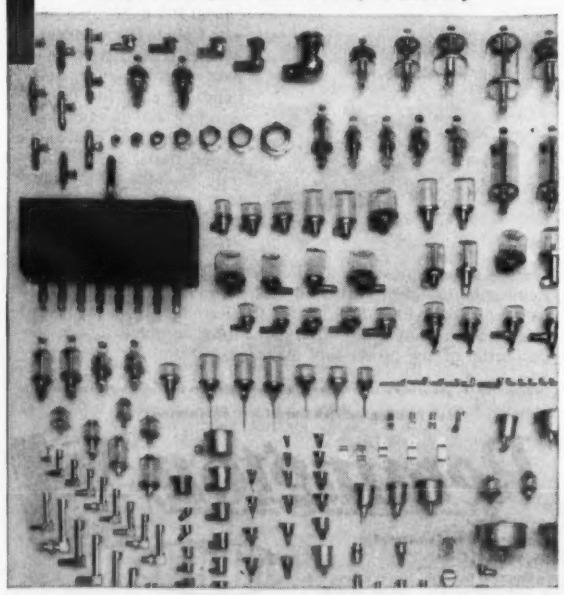
SAFE — Anyone can operate it. No special training required. Can be obtained with overhead suspension. Also, can be supplied with pedestal bracket.

Union Special® MACHINE COMPANY
Originator of Filled Bag Closing Machines
416 North Franklin Street Chicago 10, Illinois

▲ For more details circle NED-367 E9 on enclosed inquiry slip ▲

Largest selection available anywhere. You save time and money, because the one you want is always right in stock. Send for complete Catalog.

GITS BROS. MFG. CO.
1833 S. Kilbourn Ave. Chicago 23, Ill.
Specialists in Lubricating Devices and Shaft Seals for Almost Half-A-Century



▲ For more details circle NED-368 E9 on enclosed inquiry slip ▲

REDMER Index Chuck with Air Operated Collet

SIMPLIFIED DESIGN SPEEDS UP OPERATION AND REDUCES INDEXING ERRORS

The REDMER AIR INDEX CHUCK speeds up production and eliminates many costly indexing errors in either tool room or production line operation. Indexing positions on outside of chuck simplify changeovers. Lever locks into position after each index. Can be used as holding fixture without indexing for milling, drilling, tapping, etc. Twelve indexing positions. Collet capacity 1/16" to 2". Complete with standard round Brown & Sharpe type collet, two air hose, Redmer Foot Control and Valve, Filter, Regulator and Lubricator.

Send for complete details, specifications, price list and catalog of all REDMER chucks.

REDMER AIR DEVICES, INC.
Guntersville • Box NED • Alabama

▲ For more details circle NED-369 E9 on enclosed inquiry slip ▲

GEAR PROBLEMS?

Check with- **FAIRFIELD!**

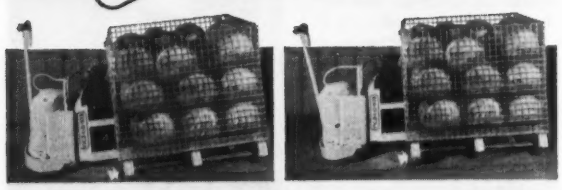
If you use gears in the product you make, we believe it will pay you, as it has others, to become acquainted with FAIRFIELD—the place where fine gears are produced to meet your specifications EFFICIENTLY, ECONOMICALLY! Fairfield's production facilities are unexcelled for making all kinds of accurate, automotive type gears such as are now finding wide use in all branches of industry: for tractors, trucks, and buses . . . for agricultural implements . . . for construction machinery . . . for machine tools. Ask for latest literature describing Fairfield's facilities. Your inquiry will receive prompt attention.

FAIRFIELD
Manufacturing Co.
2335 S. Concord Road
LAFAYETTE, INDIANA

▲ For more details circle NED-370 E9 on enclosed inquiry slip ▲

PREVENTS Low Underclearance HANG-UP

MOTO-TRUC'S New Exclusive JACK KNIFE Action . . .



Hinged Frame "Jack Knifes" Hydraulically To Give Extra Underclearance

• At the press of a button, you can get extra lift to prevent hang-up when crossing door sills or the crown of a ramp or dock board. The exclusive "Jack Knife" action does the trick—available on all Moto-Truc pallet and outrigger trucks at slight additional cost.

Write for complete details

The MOTO-TRUC Company
1961 E. 59th STREET • CLEVELAND 3, OHIO

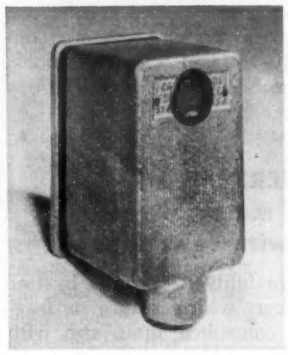
▲ For more details circle NED-371 E9 on enclosed inquiry slip ▲

RETAINING RING
attractive light duty type

Designed for modern appearance on light duty applications, this Spirolox retaining ring is suited for use in lens mounting, phonograph turntables, and other products where it is exposed to view. The single-turn ring is available in plain or stainless steel with cadmium, zinc, or Lubrite finishes. Diameters are from ½ to 5 in. Easily installed and removed ring requires no special machining, counterboring, or turning of shoulders. Made by **Ramsey Corp.**, 3693 Forest Park Blvd., St. Louis 8, Mo.

▲ For more details circle NED-372 E9 on enclosed inquiry slip ▲

PHOTORELAY
dust, moisture, and shockproof



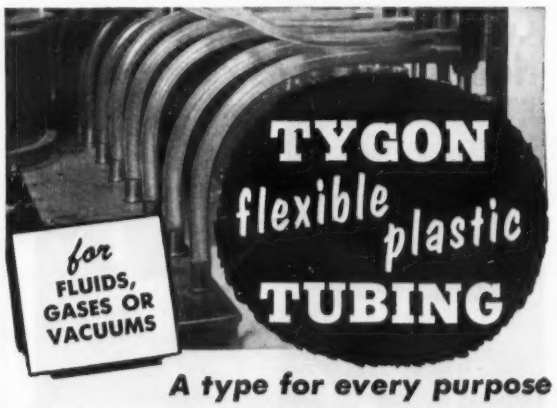
Weathertight and shock-resistant FD - 1 condulet box in which the Model R-CH photorelay is housed protects it from dust, moisture, shock, and vibration. Unit has a solid-state photocell and automatically triggers on-off or go-no-go circuits at predetermined light levels. It is sensitive to 10 ft-c. It operates on 115 v ac and has single-pole single-throw contacts rated 5 amp. Power consumption is 2.5 w. Photorelay weighs 4 lb, can be used in any position, and requires no warm-up. Made by **Berkeley/Dynamics**, 2831 Seventh St., Berkeley 2, Calif.

▲ For more details circle NED-373 E9 on enclosed inquiry slip ▲

DESCALING GUN
reciprocating needles clean recesses

Irregular shaped surfaces and contours are easily cleaned and descaled with this air-operated Von Arx gun. The tool descales by means of rapidly reciprocating, hardened steel needles which pound the surface. Needles conform to the surface contour, reaching into crevices, holes, and corners. Nonsparking needles are available for work in hazardous atmospheres. Gun is offered in three sizes and in kits complete with accessories, including special adapter chisels. Needles are offered in three sizes, with chisel and blunt ends for rough and gentle finishing, respectively. Available from **Marindus Co.**, 51 Pine St., New York 5, N. Y.

▲ For more details circle NED-374 E9 on enclosed inquiry slip ▲



A type for every purpose

Glass-clear transparency, flexibility and resistance to corrosion make Tygon Tubing the ideal piping medium for a wide range of applications . . . handling fluids, semi-solids, gases, vacuums or pressures.

Where pressure is a factor, outer braid reinforced Tygon Tubing will handle up to 300 psi. Heavy walled Tygon will handle full vacuums.

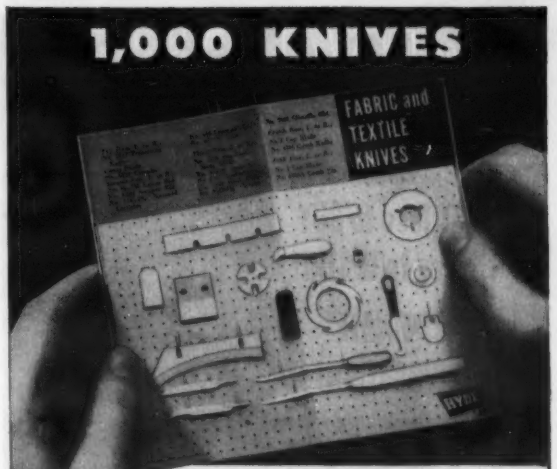
Tygon Tubing is resistant to acids, alkalies, oils, water and alcohol. It is non-toxic, non-contaminating, will handle foods, drugs and other high purity products. Standard sizes range from 1/16" i.d. to 3" i.d.

WRITE TODAY FOR BULLETIN T-97

Tygon is a registered Trade-Mark of
U. S. STONEWARE
204E-1 AKRON 9, OHIO

▲ For more details circle NED-375 E9 on enclosed inquiry slip ▲

1,000 KNIVES



50 page catalog FREE

Best quality hand and machine knives illustrated for rubber, plastic, paper, fabrics, food and foil production. May we help you with your cutting needs?

Since 1875 **HYDE**

HYDE MANUFACTURING CO.
SOUTHBRIDGE, MASSACHUSETTS, U.S.A.

▲ For more details circle NED-376 E9 on enclosed inquiry slip ▲

DI-ACRO NOTCHER
Speeds Production, Saves Extra Operations on Chassis Work

"I use our Di-Acro Notcher for practically everything," says V. Johnson of Maico Co., Inc., Minneapolis manufacturer of hearing testing equipment. "This machine speeds production—*provides one operation notching* of cold rolled steel, brass, phosphorous bronze and aluminum up to 16 gauge thick. It's also used for notching fish paper, sponge rubber, 1/16" linen Bakelite and other circuit insulating materials that go into chassis for audio testing equipment."

The 4 ton pressure of this machine has the capacity to cut a 90° notch as large as 6"x6" in 16 gauge steel *in one operation*. Adjustable gauges mounted on work table are standard. Hardened and ground triangular ram assures years of precision. A clean cut, free from rough edges and burrs, is possible because blade clearance can be easily set. For high speed production, a power model is available.

Di-Acro Notcher is used on the open end of this .064" aluminum chassis at Maico Co., Inc.

Consult the yellow pages of your phone book, under Machinery, Machine Tools, for the name of your nearest Di-Acro distributor or write for Quick Facts Folder describing this and other Di-Acro machines

O'NEIL-IRWIN MFG. CO.
354 8TH AVENUE • LAKE CITY, MINN.

▲ For more details circle NED-377 E9 on enclosed inquiry slip ▲

THOMSON "Snap-In" NYLINERS
of smooth, tough DuPont NYLON

Better bearings that
COST less to BUY*
...less to INSTALL
ELIMINATE LUBRICATION!

Low Cost FLANGED Nyliner
Low Cost SLEEVE Nyliner
Low Cost DOUBLE-FLANGE Nyliner

Additional Benefits:
• CLOSE FIT • LONGER LIFE • EASILY INSTALLED • LESS SERVICING • SELF-RETAINING • RESIST CORROSION
• LOW FRICTION • RESIST POUNDOUT • NO FRICTION OXIDATION • DAMP VIBRATION • OPERATE IN LIQUIDS • NON-CONTAMINATING
• INSTANTLY REPLACEABLE • RESIST ABRASION • MINIMUM SPACE • SILENT OPERATION • LIGHTEST WEIGHT • REDUCED WEAR

NYLINER Bearings are a highly engineered thin liner of DuPont Nylon, designed to bring bearing users the many benefits of Nylon as a bearing material by solving most of the limitations surrounding its use. The compensation gap principle assures maintenance of diametral tolerances for precision applications.

Seven Standard Types available from stock. Write for literature and name of your local representative who stocks NYLINER Bearings for immediate shipment.

*In production quantities at new, REDUCED PRICES

THOMSON INDUSTRIES, Inc.
DEPT. 9, MANHASSET, NEW YORK

Also—Manufacturers of BALL BUSHINGS . . . the Ball Bearing for Linear Motions and 60 CASE . . . Hardened & Ground Steel Shafting

▲ For more details circle NED-379 E9 on enclosed inquiry slip ▲

Commander
SELECT A SPINDLE
DUAL SPEED DRILL PRESS TURRET
DRILLS, REAMS, TAPS ON 1 DRILL PRESS SPINDLE!

TAP
DRILL
REAM

• Fits Any Drill Press
• Increases Production
• Reduces machine, fixture costs

Commander Select-A-Spindle permits you to do 3 operations on a single drill press spindle . . . save time . . . eliminate multiple handling of piece parts, speed production and reduce overall costs. Dual Speed Select-A-Spindle permits selection of proper speed for each operation. Quick, positive hand indexing positions each tool accurately for sequence operations. Select-A-Spindle is built to tap with any 1, 2 or all 3 spindles to the full capacity of the unit. Adjustable torque control spindles for protection of taps to ¼" available.

Write for illustrated circular on Select-A-Spindle, other Commander Production Tools and name of your nearby Commander Distributor

Commander MFG. CO.
4220 W. KINZIE STREET, CHICAGO
PRODUCT OF COMMANDER . . . BUILDER OF PRODUCTION TOOLS

▲ For more details circle NED-380 E9 on enclosed inquiry slip ▲

WORLD'S NO.1 INDUSTRIAL MARKER!
King Size
FLO-MASTER
Felt Tip Pen

Marks BIG & BOLD on any surface!
Especially designed for heavy duty use at your Shipping Room Table—Factory Bench.

King Size Flo-master has a greater ink capacity, uses larger felt tips (up to 1" wide) than any other marking instrument. For use with: • Transparent marking inks, *all colors* • Paint-like, opaque pigments, *all colors* • Most industrial solvents

Dual-purpose, snap-on cap may be screwed to table or work bench as a convenient, permanently-secured receptacle. Installed as shown, receptacle is airtight, keeps felt tip always moist, clean and free from factory dust and dirt, always ready for instant-marking on metal, glass, wood, plastics, rubber, fabrics.

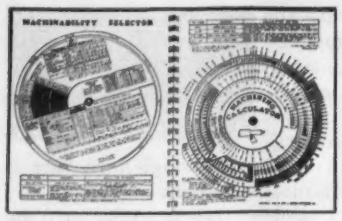
By the makers of the *pocket-size* Flo-master Felt Tip Pen—"The Standard of all Industry."

At your marking equipment supplier —or write to
Dept. NE-5
CUSHMAN & DENISON
Carlstadt, New Jersey

QUALITY PRODUCTS FOR 75 YEARS

▲ For more details circle NED-381 E9 on enclosed inquiry slip ▲

MACHINABILITY MANUAL includes data selector, calculator

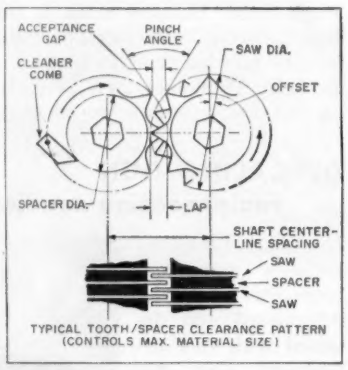


Technical machining data is provided in simplified form in Machining Manual No. 1 for turning, facing, and boring operations on single and multitool machines. A dial type machinability selector (left) provides average speeds and feeds for many different types of materials under varying set-ups and rigidity conditions with high speed steel and tungsten carbide cutting tools. The machining calculator, also of plastic, performs many computations to answer such unknown factors as revolutions per minute, surface feet per minute, horsepower, cutting time, and pieces per hour. A material hardness rating list aids in the computations. Complete instructions for the selectors are included. Selectors, instructions, general data, and work sheets are contained in a plastic-bound 8½ x 11-in. soft cover book. Price is $15. Available from **John A. Hedrick,** Box 143, Parkerford, Pa.

▲ For more details circle NED-382 E9 on enclosed inquiry slip ▲

SAWTOOTH CRUSHERS chop and break materials to controlled size with few fines

Wide range of process adaptability is featured by line of Laptooth sawtooth crushers which reduce or fragment various materials to controlled lump size with minimum of fines.



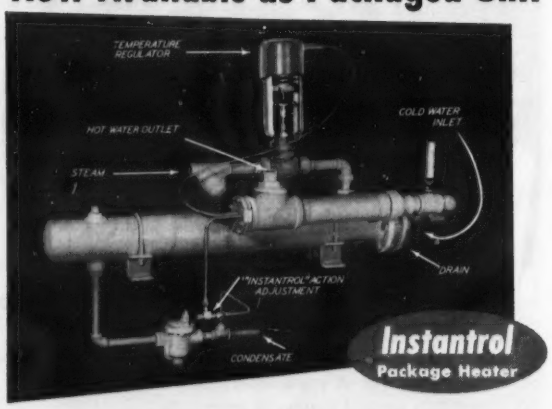
Units will reduce sponge metal forms, chips and turnings, carbon and graphite materials, outsize powder metal parts, coke, salt and slags, ores, and minerals to 1/16 to 2-in. sizes.

Chop - squeeze-break action is achieved by spaced banks of alloy steel crusher "saws" which rotate toward one another on shafts turning at different speeds. Distance between shaft centerlines can be adjusted to control the overlap of teeth. Variable factors governing size of reduced material are saw spacing, number of teeth per saw, and tooth-tip to opposite spacer clearance.

Any length crusher system up to 6 ft is standard. Inlet-hopper width can be held to 14 in. or lower to direct material into the pinch point. Special packing glands are provided for materials which must be reduced while wet. Costs range upward from $2000 without motor or special features. Made by **Robinson Mfg. Co.,** 395 Allwood Rd., Clifton, N. J.

▲ For more details circle NED-383 E9 on enclosed inquiry slip ▲

Controlled Instantaneous Heater Now Available as Packaged Unit

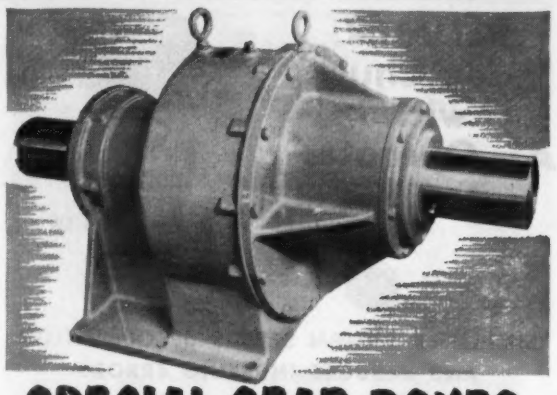


Control heated liquids accurately — regardless of load — with this new "package." All the small space, low-cost advantages of instantaneous heaters PLUS the accuracy needed for hot water supply in wash rooms, shower rooms and for industrial liquid heating! Patented "Instantrol" bulb provides "heat anticipating" effect for complete control under varying loads — and a single-seated, tight-closing regulator valve prevents temperature build-up on long standby periods!

WRITE FOR BULLETIN JY-111

Mr. Controls
Robertshaw-Fulton CONTROLS COMPANY
FULTON SYLPHON DIVISION
Knoxville 1, Tenn.

▲ For more details circle NED-384 E9 on enclosed inquiry slip ▲



SPECIAL GEAR BOXES
Announcing a new Sewall Service

Designing . . . Development . . . Manufacturing . . . to help solve your special gear box problems. We're ready to work with you at any stage of your project's development. From scratch . . . we'll design your gear boxes . . . just give us your basic idea. From your prints . . . let us submit our quotation on your requirements. We invite your inquiry . . . Check Sewall Service today.

Complete gear service . . . custom made gears . . . made-to-order sprockets . . . special gear racks —to order . . . standard gear racks in stock

E. B. SEWALL MFG. CO.
Dept. D 705 Raymond Ave.
St. Paul 14, Minn. Midway 5-7721
SEWALL GEARS

▲ For more details circle NED-385 E9 on enclosed inquiry slip ▲

POWERFUL NEW PLUNGER CLEARS
CLOGGED TOILETS
in a jiffy!

Clear messy, stuffed toilets
Cut maintenance costs with
TOILAFLEX
Toilet ALL-ANGLE Plunger

Ordinary plungers don't seat properly. They permit compressed air and water to splash back. Thus you not only have a mess, but you lose the very pressure you need to clear the obstruction.

With "TOILAFLEX", expressly designed for toilets, no air or water can escape. The full pressure plows through the clogging mass and swishes it down. Can't miss!

Get a "TOILAFLEX" for your home too. Positive insurance against stuffed toilet.

• Double cup, double-pressure
• Tapered tail gives air-tight fit
• Designed to flex at any angle
• Centers, can't skid around

$2.65 Fully Guaranteed

Order from your Supplier of Hardware or Janitor Supplies

THE STEVENS-BURT CO., NEW BRUNSWICK, N. J.
A Division of The Water Master Company

▲ For more details circle NED-386 E9 on enclosed inquiry slip ▲

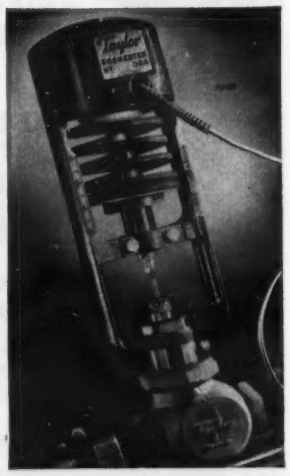
SELF-ACTING, SELF-SUFFICIENT

THE Taylor Self-Acting Temperature Controller works for you night and day. Requires the very minimum of attention of maintenance, is rugged and simple in operation. In fact, you can install it and forget it!

Requiring no auxiliary air supply, it is the perfect answer on processes involving no extreme load changes.

Double seated valves available up to 2"; single seated composition disc types up to 1".

Numerous standard temperature ranges within 10° and 340°F., and semi-standard temperature ranges within 165° and 610°F. Choice of bulb material and type of connection.



Ask your Taylor Field Engineer or write for **Catalog 36-R.**
Taylor Instrument Companies, Rochester, N. Y., or Toronto, Ontario.

Taylor Instruments MEAN ACCURACY FIRST

▲ For more details circle NED-387 E9 on enclosed inquiry slip ▲

- More velocity
- Higher impact
- Better concentration
- Longer life
- Lower operating costs

BORIUM Nozzles are lined with pure tungsten carbide, outlast cast iron nozzles *hundreds* of times!

GUARANTEED 300 HOURS when used with silica sand... efficient performance with *all* abrasives.

FREE LITERATURE. Write for data on standard and special BORIUM Nozzle types for all blast cleaning requirements!

STOODY COMPANY 11992 East Slauson Avenue Whittier, California

For more details circle **NED-388 E9** on enclosed inquiry slip

Gary SUPER Galok* SERRATED ALUMINUM GRATING

Serrations scientifically designed to provide maximum positive footing. High strength to weight ratio, minimum deflection, maximum safety, corrosion resistant. Bars cannot turn, twist, loosen or fall out. Write for detailed specifications.

Gary SUPER Galok also available with plain bars. Sizes for every need.

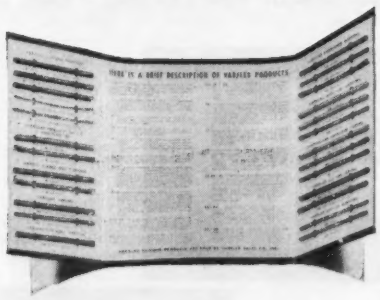
*Patents Pending

Catalog N-59

ROCKWELL-STANDARD CORPORATION GRATING DIVISION
4017 E. Seventh Ave., Gary, Indiana

For more details circle **NED-389 E9** on enclosed inquiry slip

Send for this *Free* SAMPLE FOLDER...



Contains 25 different test samples of high-dielectric Insulating Tubing & Sleeving.

Includes samples and descriptions of: Varglas Silicone • Varfil Sleeving and Tubing, polyester resin impregnated Fiberglas • Varglas Tubing and Sleeving • Varglas Non-Fray Sleeving • Varflo Tubing and Sleeving • Varflex Cotton Tubing and Sleeving • Syntholvar Extruded Tubing

Write today!

VARFLEX CORPORATION
510 W. Court St. Rome, N. Y.

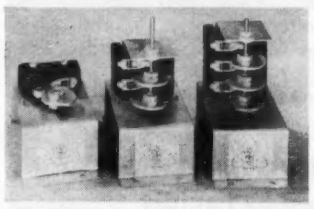
For more details circle **NED-390 E9** on enclosed inquiry slip

TUNGSTEN CARBIDE INSERTS in throw-away squares, triangles

Popular tungsten carbide grades and sizes are offered in these square and triangular shaped throw-away inserts. Precision ground negative and positive rake, as well as conventional utility ground negative rake types are available. Nonferrous cutting and steel cutting grades are identically priced. Made by **Multi Metals, Inc.**, 500 E. Main St., Louisville 2, Ky.

For more details circle **NED-391 E9** on enclosed inquiry slip

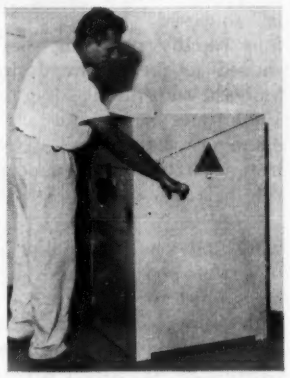
TIMER KITS for process control, life testing



Cycle times from 60 sec up to 1 revolution per hour are available in Harco timer kits for use in process control, life testing, pulsing, and flashing. Kit consists of a 115-v 60-cycle synchronous motor that drives an adjustable split-cam assembly which, in turn, actuates an enclosed single-pole double-throw snap-action switch. Contacts are rated 15 amp at 125 v and 5 amp at 250 v ac, non-inductive. Multigang timers suited for repetitive cycle timings are also available. Made by **Herbach & Rademan, Inc.**, 1204 Arch St., Philadelphia 7, Pa.

For more details circle **NED-392 E9** on enclosed inquiry slip

INDUSTRIAL TOWEL DISPENSER issues clean cloth for used one



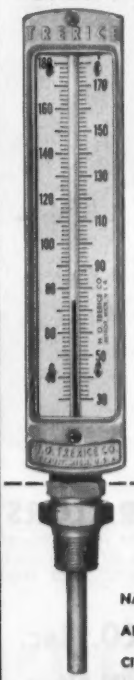
Towel loss, miscount, and pilferage is minimized with use of this industrial towel dispenser which issues one clean wiping cloth for one used towel. Used towel is dropped through hood opening, crank is turned, and clean towel is pulled from center slot. Unit measures 48 x 22½ x 30 in. Tamperproof counter registers the dispensing of each clean towel. If dispenser is empty, the used towel deposited by the user is returned to him through a special opening. This transaction is not recorded by counter. Foolproof master locking system prevents tampering. Made by **Associated Co.**, 1441 McLean Blvd. S., Wichita 13, Kans.

For more details circle **NED-393 E9** on enclosed inquiry slip

NEW! The high quality of

STAINLESS STEEL

. . . at lower cost!



TRERICE BX SERIES ***INDUSTRIAL***

THERMOMETERS

Now available! The new high-quality, low-cost Trerice BX Series Thermometer with stainless steel front and bulb chamber. Easy-to-read scale markings . . . large red appearing mercury tube . . . durable 9-inch cast aluminum case. Guaranteed accurate temperature indication! Available in standard range models from —40°F to 950°F. No extra cost for straight, right side, left side, regular angle, regular oblique, or reverse oblique forms.

H. O. TRERICE CO.
1424 W. Lafayette Blvd., Detroit 16, Mich.
Please send bulletin 201 describing Trerice BX Industrial Thermometers!

NAME_____
ADDRESS_____
CITY_____ ZONE____ STATE____

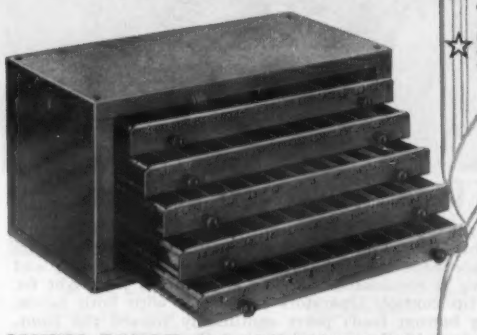
TRERICE TEMPERATURE AND PRESSURE INSTRUMENTS

For more details circle **NED-394 E9** on enclosed inquiry slip

HUOT DRILL DISPENSER!

KEEPS THE RIGHT DRILL READY!
(No "jungle of drills" to hunt through)

- Holds dozens of drills
- Compact 7x7x14 size
- Heavy duty drawers
- Positive drawer stops



WITH BUILT-IN INVENTORY

The built-in pricing or inventory system eliminates the need for troublesome record sheets. And you won't "run out" of drills either—you can see your complete stock at a glance!

Raised letters and numbers on drawer fronts are easy to read and will not rub off. Your dispenser comes in a choice of three models for numbered, lettered or fractional drills. May be stacked for compactness. Handsome gray or red hammerlin finish.

Write for Bulletin

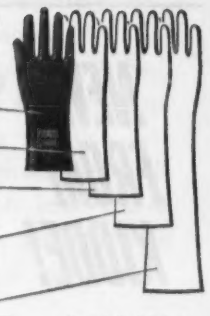
HUOT MANUFACTURING CO.
571 No. Wheeler St. • St. Paul W4, Minnesota

For more details circle **NED-395 E9** on enclosed inquiry slip

These Stanzoil® Milled Neoprene Gloves Guarantee Positive Liquidproof Protection in 103 Basic Oils, Acids, Caustics, Greases, Solvents

Black All Neoprene Stanzoils With Non-slip Grip

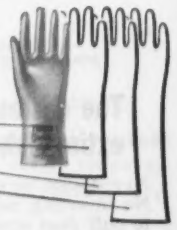
Model	Weight	Fingers	Length
N-31	Light	Straight	10½"
N-35	Light	Curved	10½"
N-32	Medium	Straight	11"
N-36	Medium	Curved	11"
N-41	Heavy	Straight	12"
N-44	Heavy	Curved	12"
N-51	Heavy	Straight	14"
N-33	Light	Straight	14"
N-54	Heavy	Curved	14"
N-71	Heavy	Straight	18"
N-73	Light	Straight	18"
N-74	Heavy	Curved	18"



White All Neoprene Stanzoils With Smooth Finish

Model	Weight	Fingers	Length
N-30	Light	Curved*	10½"
NW-31	Light	Straight	10½"
NW-32	Medium	Straight	11"
NW-41	Heavy	Straight	12"
NW-51	Heavy	Straight	14"

*Non-slip



Mail This Coupon Today

The PIONEER Rubber Co.
234 Tiffin Road . . . Willard, Ohio (Neoprene)

Please send me:
- ☐ 1958-59 Pioneer Industrial Glove Catalog
- ☐ 17" x 22" Full Line Glove Wall Chart
- ☐ Job Description Form For Free Hand Protection Analysis

Firm_____
Address_____
City_____ Zone____ State____
Requested by_____

For more details circle **NED-396 E9** on enclosed inquiry slip

For faster, lower cost assembly...

You'll get big savings on assembly operations with Stackbin Assembly Bins. Work station layouts are more efficient. Parts are kept close to worker's hands . . . reaching and fumbling is eliminated. Shallow angle lip is just right for finger tip control. Operators can select with both hands. Sloping bottom feeds parts continually toward the front. With adjustable hoppers, there are always plenty of parts when and where they're needed.

Stacking feature permits rigid setups, allows flexibility when layout is changed.

Stackbin Assembly Bins feature all-welded construction with smooth, folded edges. 6 sizes with straight or tapered sides. Also available with rear-loading feature.

WRITE TODAY for full information on the Stackbin System

Stackbin Corporation, 1081 Main Street, Pawtucket, R. I.

Mfgd. and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa

STACKBIN SYSTEM "Stacked and Still Accessible"

▲ For more details circle NED-397 E9 on enclosed inquiry slip ▲

"SILVER" PAPER SHREDDERS FOR COST-CONSCIOUS EXECUTIVES

USED IN THOUSANDS OF PLANTS TO REDUCE PACKING COSTS

FOR 10 DAYS—FREE!

Reduce your packing material costs as much as 40% by shredding your own paper. The "Silver 13-C's" fast, efficient, low-cost operation and many new mechanical improvements make it the fastest-selling Shredder in the industrial field. 7 other models available, too, depending on your needs and capacity desired. 10-day free trial in your own plant. Write for helpful data on how you can cut your packing costs . . . at the same time, dispose of excess paper materials.

INDUSTRIAL SHREDDER & CUTTER CO.
107 Mill Street Salem, Ohio

▲ For more details circle NED-398 E9 on enclosed inquiry slip ▲

NEW FROM KIDDE!

2½-gallon pressurized water

2½-gallon anti-freeze (loaded stream)

The easiest-to-operate portable fire extinguishers on the market today!

New design for water and loaded stream extinguishers. No inverting, no bumping, no valves to turn, no pins to pull. Just aim at fire and push the button.

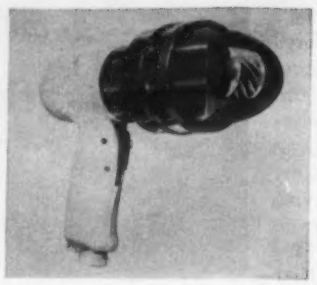
Hose is stored safely out of the way. Wide-open handle insures fast action even in gloved hands. Dust-and-waterproof pressure gauges show at a glance whether the units are fully charged. They're the easiest-to-store, easiest-to-carry, easiest-to-operate portables on the market today! Approved by Underwriters' Laboratories. For more information, write to Kidde today.

Kidde

Walter Kidde & Company Inc.
524 Main St., Belleville, N. J.
Walter Kidde & Company of Canada Ltd.
Montreal—Toronto—Vancouver

▲ For more details circle NED-399 E9 on enclosed inquiry slip ▲

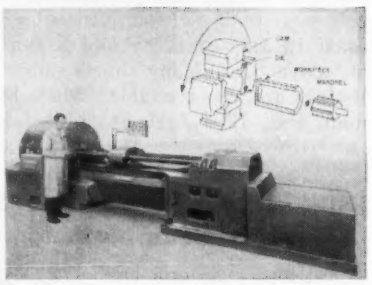
WELD BEAD SHAVER
3000 and 11,500-rpm models offered



Removal and flush-finishing of weld beads is performed in one operation by Models ZT-508 and ZT509 weld shavers, both of which are powered by a 1-hp air motor requiring 90-psi air supply. Former is used on stainless steel, steel, and titanium welds and is geared for 3000 rpm. It weighs 9½ lb. Latter model operates at 11,500 rpm and is designed for use on aluminum, copper, brass, and magnesium welds. This model weighs 7½ lb. Cutter is mounted between adjustable rollers which straddle and follow the bead on flat, convex, or concave surfaces. Cutter depth is adjustable in 0.0005-in. increments. Carbide and high speed steel cutters are offered in ⅜, ½, and ¾-in. widths. Made by **Zephyr Mfg. Co.**, 201 Hindry Ave., Inglewood, Calif.

▲ For more details circle NED-400 E9 on enclosed inquiry slip ▲

ID PROFILE FORMING MACHINE
work is squeezed by rapidly pulsating dies over a mandrel



Cylindrical workpieces such as tubes or rings are cold-formed to obtain profiles on the inside diameter by this Intraform chipless, profile forming machine. Work is squeezed by four rapidly pulsating dies over a mandrel which is shaped to create the desired inside diameter profile. Smooth, continuous squeezing action occurs more than 1000 times per minute as dies revolve around outer diameter of the work. Profiles produced range from heat exchanger fins to accurate lands and grooves in rifle barrels.

Since only workpiece has a feeding traverse, long work may be internally formed with a short, relatively inexpensive mandrel. This internal forming can be applied to any type of ferrous or nonferrous part with from ⅛ to 5-in. diameter. Laminated tubing can be made by form-bonding two or more metals. Operations for which a mandrel is not required, such as pointing, reducing diameters, or tapering, can also be performed on tubular and solid work. Internal finishes average 7 to 8 microinches and some parts can be held to 0.0002-in. limits for ID profile. Made by **Cincinnati Milling Machine Co.**, Marburg & South Streets, Cincinnati 9, Ohio.

▲ For more details circle NED-401 E9 on enclosed inquiry slip ▲

SHAKE DRY MATERIALS LOOSE FROM IRON PARTICLES with FERROFILTER

ELECTROMAGNETIC SEPARATORS

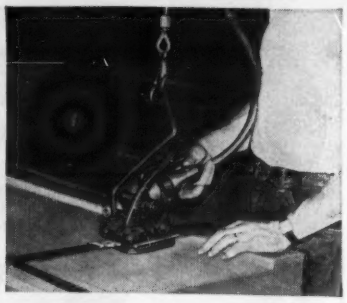
Powerful adjustable vibrator provides right amount of shake for type of material handled. Material sifts through strongly magnetized grids which attract and hold iron particles until current is shut off.

Send for Bulletin 56-E showing full line Dry and Wet FERROFILTERS

S. G. FRANTZ CO., Inc.
Brunswick Pike & Kline Ave.
P. O. Box 1138 Trenton 6, N. J.

▲ For more details circle NED-402 E9 on enclosed inquiry slip ▲

NEW from Signode



Heavy-duty feed wheel tool saves a foot or more of strap every time it's used

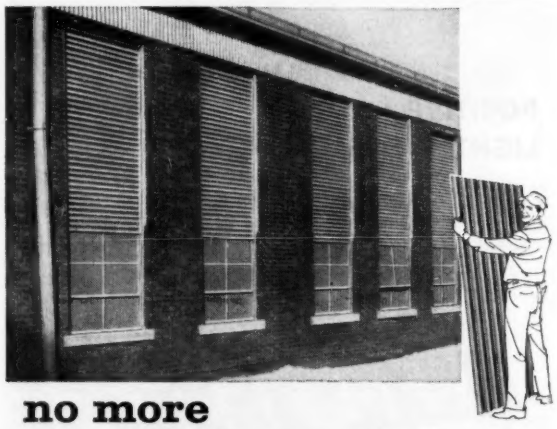
The air-powered FN-114 takes 1¼-inch strapping directly from the dispenser. No waste strap.

Can save a foot or more of strap every time it's used • Easier and faster to load than a windlass type tool • Unlimited takeup... pulls pre-set tension every time • Plenty of power... up to 3000 lb. tension.

See a demonstration of this *first* feed wheel heavy-duty air-powered tensioning tool—on your premises, at your convenience.

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
Offices Coast to Coast
Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

▲ For more details circle NED-403 E9 on enclosed inquiry slip ▲



no more broken windows

Rockwell has glazed with Structoglas

Rockwell plans to cut maintenance costs with new Structoglas glazing in their Salem, Ohio foundry.

Structoglas is *shatterproof reinforced plastic*—withstands shock, impact—eliminates glass breakage. Tinted to filter out glare without painting; easily installed with ordinary methods. Get details on *reducing maintenance costs* in your plant with Structoglas glazing. Write for Firestone and Rockwell Case Histories and Glazing Folder.

Get the valuable facts about Structoglas . . . today!

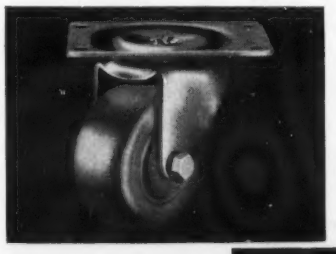
structoglas®

STRUCTOGLAS DIVISION
International Molded Plastics, Inc., Dept. NE 5, Cleveland 9, Ohio

▲ For more details circle NED-404 E9 on enclosed inquiry slip ▲

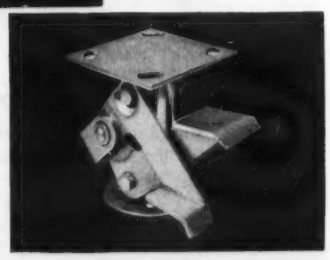
Free Wheeling, Smooth Swiveling RUGGED DUTY CASTERS

From the complete Payson, Harris & Reed line of light to extra heavy duty casters, you can select a product that is time-honored and job-proven for your particular application.



Payson 760 Series — Medium duty, all purpose caster. Used with dollies, utility trucks, shop carts, etc. Cold formed steel. Choice of rubber or steel wheels, 1⅝" to 8" diameter. Thread guards available. Corresponding rigids to match.

Harris & Reed Floor Locks — the latest in floor lock design, one pedal for locking the other for releasing. A complete range of sizes assures a safe and sturdy support for all types of portable equipment. Will not mar floor. Easily applied, no maintenance.



PAYSON CASTERS SINCE 1875 HARRIS & REED

These are only two of Payson and Harris & Reed proven products.

Write for complete illustrated catalog.

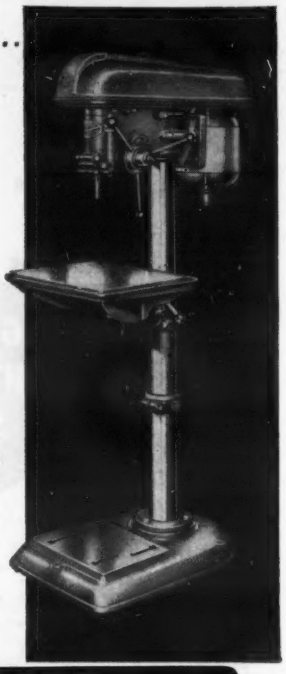
2920 W. JACKSON BLVD.
CHICAGO 12, ILLINOIS

▲ For more details circle NED-405 E9 on enclosed inquiry slip ▲

Another great W-T "Light-Heavyweight"...

New WT WALKER-TURNER 17" DRILL PRESS

76 MODELS



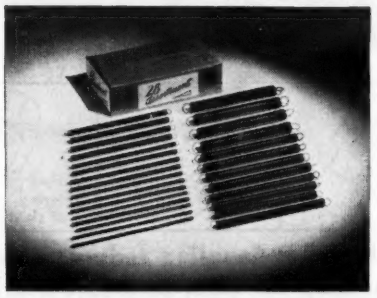
Ask your W-T distributor to show you the many outstanding features of this new "Light-Heavyweight." He's listed under "Tools" in the Yellow Pages.

FREE CATALOG—Write to Walker Turner Division of Rockwell Manufacturing Co., Dept. WE-45, 400 N. Lexington Ave., Pittsburgh 8, Pa.

WALKER-TURNER "LIGHT-HEAVYWEIGHT" MACHINE TOOLS
another fine product by
ROCKWELL

For more details circle NED-406 E9 on enclosed inquiry slip

Stock SPRING assortments



Our #28 (extension) Spring Assortment folders are now available and yours for the asking. Our #31 (compression) Spring Assortment folders are also available. Ideal for tool rooms and maintenance work.

To overcome the faults of ordinary assortments, which seem to contain "every spring except the one needed", design efforts were not confined to the springs alone; rather, loadings and dimensions were analyzed to assure the user of greater probability in having the correct spring on hand, whatever the application.

We also manufacture to special order.

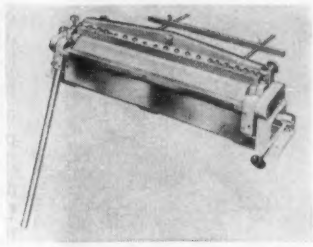
Send samples or prints for quotation.

Find Your Nearest Paragon Agent in The Yellow Pages

PARAGON SPRING COMPANY
4619 W. Fulton St. • Chicago 44, Ill.

For more details circle NED-407 E9 on enclosed inquiry slip

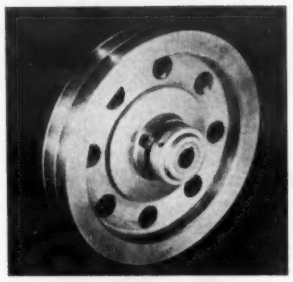
BENDING BRAKES offered in variety of widths



Line of box and pan brakes is available in 24, 30, and 36 - in. widths. The two larger sizes are made of fabricated steel for strength and accuracy of bends, and have relieved fingers. Also offered are slip rolls in 18, 24, 30, and 36-in. widths with 2-in. rollers. Made by **Berkroy Products Co.**, 1171 E. 32nd St., Los Angeles 11, Calif.

For more details circle NED-409 E9 on enclosed inquiry slip

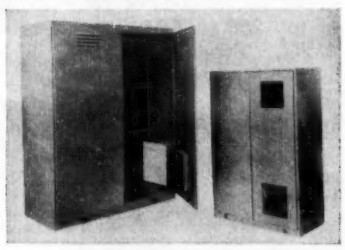
SAFETY CLUTCH slips at preset overload



Slippage at any preset torque up to 300 lb-in. provides overload protection in these safety clutches. Full drive recurs when torque falls below set value. Standard clutches are offered integral with single or double grooved sheaves for A or B belts. Five pitch diameters range from 6.2 to 11 in. Special clutches, integral with sprockets or pinions, are also available. Units fit on shafts up to 1 in. diameter and extend 2¾ in. along the through or stub shaft. Sheaves have oil-impregnated bearings. Standard clutch prices range to $35. Made by **Edgemont Machine Co.**, 2200 Home Ave., Dayton 1, Ohio.

For more details circle NED-410 E9 on enclosed inquiry slip

SHEET METAL CABINETS custom made in wide size range



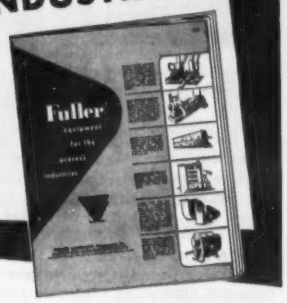
Steel, stainless steel, or aluminum cabinets ranging in size from tiny pushbutton - switch enclosures to those measuring 30 x 3 x 12 ft can be produced on a custom basis in any desired quantity. Applications include mounting and protecting electrical apparatus, switchgear, and similar equipment. Cabinets can be made with or without doors and interior parts to specifications. They can also meet JIC specs for dust, and oil tightness. Produced by various joining methods, the cabinets can be left unfinished for customer's painting, given a prime coat, or shipped completely finished. Made by **Bargar Metal Fabricating Co.**, 1028 E. 134th St., Cleveland 10, Ohio.

For more details circle NED-411 E9 on enclosed inquiry slip

FREE BULLETIN

FULLER EQUIPMENT FOR THE PROCESS INDUSTRIES

12 pages of Photos Diagrams Charts



. . . tell you and show you how to move mountains of dry pulverized, crushed and granular materials to and from, up, over, around and under your plant to storage . . . and from storage to processing points . . . and do it economically.

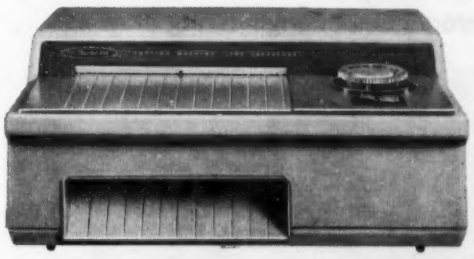
It's called Fuller Equipment for the Process Industries. Just write for Bulletin G-3 . . . today. 1358 G211

FULLER COMPANY
154 Bridge Street
Catasauqua, Pa.
Fuller

SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION
Birmingham • Chicago • Kansas City • Los Angeles • New York • San Francisco • Seattle

For more details circle NED-412 E9 on enclosed inquiry slip

Speeds 125 office jobs!



Only "Thermo-Fax" Copying Machines do so many office jobs so quickly, so easily, for so little cost!

Count on a "Thermo-Fax" Copying Machine to speed work flow throughout the office or plant. It copies a business paper or production form in just 4 seconds—by the only completely electric, completely dry, completely clean copying process.

Yet this versatile machine is more than a speedy communicator. It's also a low-cost billing machine, accounting machine, addressing machine, labelling machine. You'll use it to speed work, cut costs, in several of your present work systems. For full facts call your local dealer, or mail the coupon.

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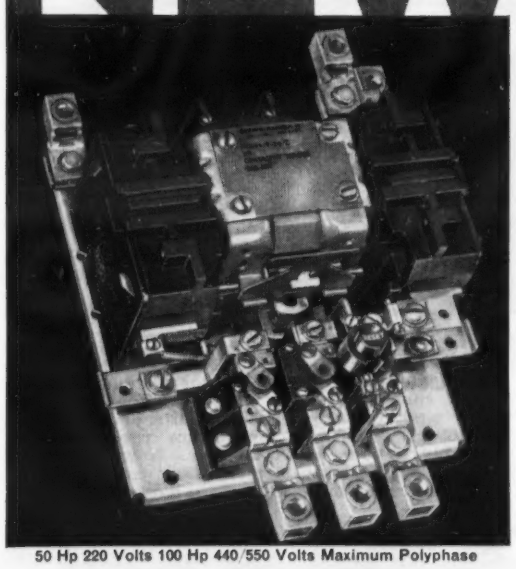
. . . WHERE RESEARCH IS THE KEY TO TOMORROW

Minnesota Mining and Manufacturing Company
Dept. KP-59, St. Paul 6, Minnesota
Send me facts on the "Thermo-Fax" Copying Machine

Name_____
Company_____
Address_____
City_____ Zone____ State_____

For more details circle NED-413 E9 on enclosed inquiry slip

NEW Size 4 Starter



50 Hp 220 Volts 100 Hp 440/550 Volts Maximum Polyphase

Here's industry's first large horsepower starter offering all the desired features of the famous Cutler-Hammer Three-Star Motor Control Line. Smaller, more compact, this new starter simplifies panel design and saves valuable panel area. Tests of the new parallel contact structure show vastly improved electrical life even when operated at full capacity. New low mass movable members cut impact wear resulting in unsurpassed mechanical life. We've tested it against all others, why don't you?

Get all the facts today, write for Bulletin EN125- J251 Cutler-Hammer Inc., Milwaukee 1, Wisconsin.

Look for Cutler-Hammer Three-Star Motor Control
It installs easier . . . works better . . . lasts longer

- U-shaped cover easily removable for unobstructed inspection and accessibility
- Straight through wiring . . . line terminals at the top, load terminals at bottom
- New pressure type terminals cut wiring time and effort
- Overload relays adjustable to within 3% of full load motor current
- Precision cast overload sensing coils can't lose their accuracy
- Three-coil overload protection is a standard optional feature . . . no special attachments or enclosures
- Indestructible molded magnet coils
- Easily installed convertible electrical interlocks
- Vertical contacts are dust-safe, outlast all others

CUTLER-HAMMER CONTROL CH

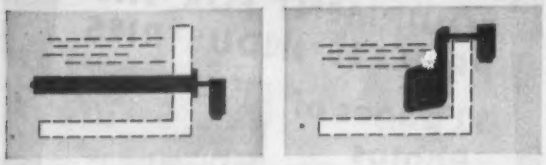
CUTLER-HAMMER

Cutler-Hammer Inc., Milwaukee, Wis. • *Division:* Airborne Instruments Laboratory. • *Subsidiary:* Cutler-Hammer International, C. A.
Associates: Canadian Cutler-Hammer, Ltd.; Cutler-Hammer Mexicana, S. A.; Intercontinental Electronics Corporation.

For more details circle NED-408 E9 on enclosed inquiry slip

When you melt soft metals . . .

Reduce costs with General Electric melting pots and metal melting heaters



No matter what your metal melting problem, electric heat offers these advantages.

FAST MELTING: Electric heat cuts melting time by two thirds because every Btu goes directly from heater to the metal. On actual test, eight tons of metal were melted from ambient in one hour and ten minutes.

AUTOMATIC CONTROL: With General Electric heaters you get evenly regulated temperatures—automatically. Oxidation is reduced. Operating costs are lowered.

LOW MAINTENANCE: General Electric heaters often give 15 years or longer service without maintenance. Heaters can be replaced quickly without interrupting production.

FREE BULLETINS

For more information, write Section 723-32, General Electric Company, Schenectady 5, N. Y., and ask for GEA-5098 MELTING METALS, GEA-6113 SELECTOR GUIDE FOR METAL MELTING, and GEC-1005 CATALOG OF GENERAL ELECTRIC HEATERS AND DEVICES.

GENERAL ELECTRIC

▲ For more details circle NED-415 E9 on enclosed inquiry slip ▲

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thanks to **automatic xerography**

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Above, original drawing is contrasted with microfilmed reduction mounted in aperture of data-processing card. Below, Copyflo 24 continuous printer.

Push the button and copies flow

. . . print quality superior to that of any other method of engineering-drawing reproduction

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HALOID XEROX®

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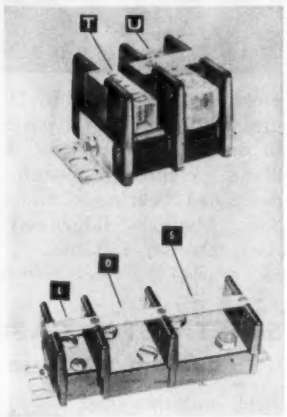
ULTRASONIC THICKNESS TESTER has range of 0.09 to 5.0 in.

Small, self-contained Audigage Model 6 thickness tester nondestructively measures thickness of metals, glass, ceramics, and plastics from one side on flat or curved surfaces down to 1 - in. radius. Unit weighs less than 5 lb. It is suitable for field inspections of ship hulls, piping, tanks, pressure vessels, bulkheads, and similar areas where corrosion is suspected. When ceramic transducer is applied to material surface, instrument indicates harmonic resonances by signal in headphones and deflection of indicator needle. It is powered by three radio-type mercury batteries, good for 2 to 4 months of normal testing. Range is 0.09 to 5.0 in. and accuracy is within 3 to 5 per cent. Made by **Branson Instruments, Inc.**, 40 Brown House Rd., Stamford, Conn.

▲ For more details circle NED-417 E9 on enclosed inquiry slip ▲

TERMINAL BLOCKS rated 125 and 250 amp at 750 v



Improved Type T and U high current terminal blocks, rated 125 and 250 amp at 750 v, respectively, have tubular type terminals for connecting wire leads without lugs. The high-pressure, solderless connectors are made from electrolytically pure copper. Type T takes AWG No. 6 to No. 1/0 wire and is offered with 1 to 6 terminals per block. Type U, with socket head screws accommodates No. 4 to 250 MCM wire AWG. Type L, O, and S blocks, for connection of leads with lugs, are rated 100, 125, and 225 amp, respectively, at 750 v. They handle up to No. 1, 1/0, and 4/0 AWG wire, respectively. The Type L can have as many as 12 terminals. Made by **Curtis Development & Mfg. Co.**, 3250 N. 33rd St., Milwaukee 16, Wis.

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Hand Trucks, Casters & Skids

Nutting Truck & Caster Co.—Specifications and illustrations on 2 two-wheel trucks, 12 types of dollies, 4 wagon trucks, 24 platform and shelf trucks, and many styles of casters, jacks, and semilive skids are contained in 12-page Junior Catalog 59G. Data on demountable rubber tired, plastic, semipneumatic, and full pneumatic wheels are also included.

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ClarkeAmatic

BATTERY POWERED FLOOR MAINTAINER cuts labor costs to 12¢ per hour

This Clarke self-propelled floor maintainer cleans floors fast – scrubs, picks up and dries all in one easy, automatic operation, covering 12,000 sq. ft. per hour, slashing costs to only 1/12 of the estimated national average wage rate. You get clean floors for dimes instead of dollars.

Clarke FLOOR MACHINE CO.
Formerly Clarke Sanding Machine Company

225M. Clay Ave., Muskegon, Mich.
Authorized Sales Representatives and Service Branches in Principal Cities.
DISTRIBUTED IN CANADA: G. H. Wood & Co., Ltd., P.O. Box 34, Toronto 14, Ont.

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SEALINE Hand Sealer
For Thermo-Plastic Films

SEALS BAGS - PACKAGES - STRAIGHT or IRREGULAR SHAPES

Ideal on Polyethylene and Pliofilm

New and Improved

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- Now available — AC or DC — 110V or 220V.
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- Easy to handle — weighs less than 1 lb.

SEALINE Hand Sealer $23.90 f.o.b. Chicago

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4720 W. Lake St., Chicago 44, Ill.

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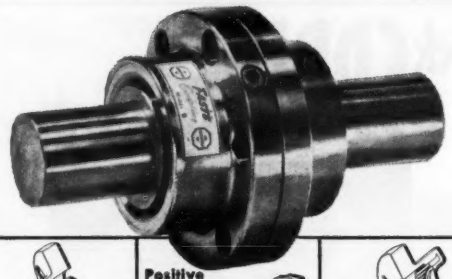

Fast's Model B Coupling reduces downtime and upkeep for light-to-medium drives!

Now you can profit from the durability and economy of famous Fast's couplings in a smaller and lower-cost version —available in 5 sizes for shafts ½" to 3⅛" in diameter.

The Model B coupling gives you the same features that have made Fast's the world's leading coupling for over 35 years. You get the same trouble-free performance, longer service life and lower maintenance costs. You also get prompt delivery because stocks are on hand to meet practically every need. Free engineering service is also available.

Write today for more details to KOPPERS COMPANY, INC., Fast's Coupling Dept., 5505 Scott Street, Baltimore 3, Md.

KOPPERS — THE ORIGINAL FAST'S Couplings
Engineered Products Sold with Service

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1001 USES!

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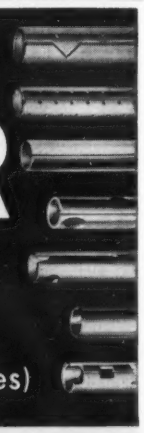
(Sleeves, Bushings, Ferrules)



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Investigate the substantial savings possible with rolled, split steel spacer tubes. They replace costly pipe, tubing or machined parts, eliminate cut-off or de-burring time, come ready for assembly, to your exact dimensions. Now saving money on thousands of applications from cars to phonographs, bicycles to chain hoists!

FREE CATALOG

Shows wide range of standard sizes, also special features that can be included. Write for your copy today!

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Federal-Mogul-Bower Bearings, Inc.
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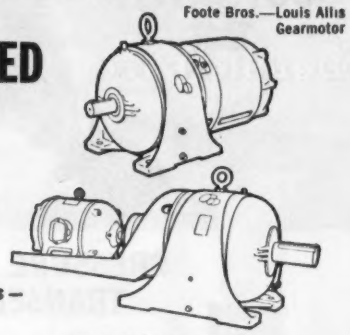
FOOTE BROS.

Better Power Transmission Through Better Gears

Foote Bros.—Louis Allis Gearmotor

MOTORIZED DRIVES



- Gearmotors in sizes 1 to 150 HP Single, Double, Triple Reductions
- LINE-O-MOTOR Drives — 1 to 75 HP Double, Triple Reductions

LINE-O-MOTOR DRIVE

Foote Bros.—Louis Allis Gearmotors are available in over 3500 types and sizes, with output speeds from 780 to 7.5 RPM.; Foot, Flange, or Extended Bearing Flange mountings.

LINE-O-MOTOR Drives permit you to use your own NEMA frame motor, or specify the type you prefer. Ratios from 5 to 1 through 238 to 1.

GEARMOTORS and LINE-O-MOTOR Drives incorporate famous Foote Bros. DUTI-RATED Gearing for high capacity, smooth operation, long life.

84 page Bulletin MRA has complete details and selection data on Foote Bros. Motorized Drives. *Write for it today.*

FOOTE BROS. GEAR AND MACHINE CORPORATION

4569 South Western Boulevard • Chicago 9, Illinois

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Improved

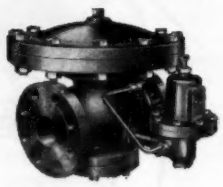
FOR BETTER STEAM REGULATION

FISHER TYPE 92B

PILOT OPERATED REDUCING VALVE

Quicker, Easier Maintenance...

Fisher engineers have done it again! The 92B is not only extremely accurate, compact and flexible—but it minimizes problems inherent in steam regulation such as clogged orifices, sticky valves and diaphragm rupture. One pilot with three interchangeable springs covers a range of from 2 to 150 p.s.i.



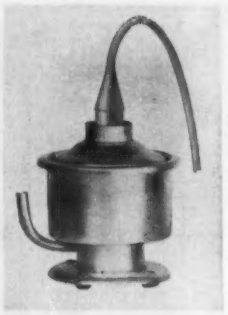
Write for bulletin D-92

FISHER GOVERNOR COMPANY FISHER Controls

Marshalltown, Iowa
Woodstock, Ontario

▲ For more details circle NED-425 E9 on enclosed inquiry slip ▲

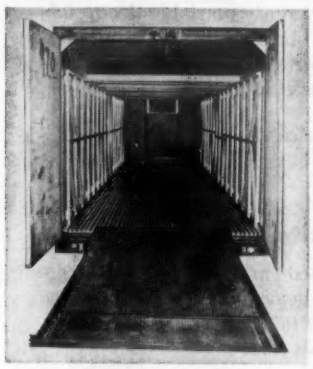
SUBMERGIBLE PUMPS
small units made of solid brass



Capacities of 200, 300, and 500 gph at 1-ft head are available in three models of solid brass submergible pumps. Each operates on 115 or 230 v and is permanently sealed in oil. Pumps can be operated completely or partly submerged. Applications include ice machines, coolers, and condensate removal. Made by Thomas Beckett & Co., Box 13245, Dallas, Tex.

▲ For more details circle NED-427 E9 on enclosed inquiry slip ▲

ADJUSTABLE DOCK PLATE
controlled by levers and springs



Installed readily on new or existing docks, this improved Holleen dock plate is furnished as a complete structural unit. Superstructure facilitates mounting in front of existing docks. It is mechanically controlled by a system of levers, counterbalancing springs, and wheels. One man can operate it effortlessly up, down, in, or out. In retracted position it is level for traffic. Capacity is 15,000 lb, and movable plate measures 60 in. wide by 84 in. long. Larger capacities are offered. Formerly made by Bloomer Industries, Inc., it is now made by Tremplo Mfg., Inc., Osseo, Wis.

▲ For more details circle NED-428 E9 on enclosed inquiry slip ▲

UTILITY MOPPING BUCKET
convertible to twin-tank use

Two or these Convertible mopping buckets can be joined with plated wire hooks to serve as a twin-tank unit for cleaning large areas, or for jobs requiring two solutions. Single 32 or 44-qt bucket is suited for small jobs. Buckets also stack for compact storage. Nonmarking bumper prevents damage to walls or furniture, and easy-rolling casters afford mobility. Mop wringer can be used without tipping bucket. All parts are rustproof. Made by Geerpres Wringer, Inc., Box 658, Muskegon, Mich.

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FREE BOOK

Shows You HOW TO CUT INDUSTRIAL WASTE DISPOSAL COSTS

Here's one of the most comprehensive books ever published on the subject of industrial waste disposal. You'll find its pages packed with money-saving information . . . discussions and comparisons of equipment and methods. Among the many subjects covered are:

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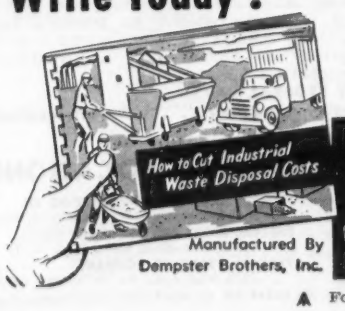
An explanation of a simple, step-by-step cost-finding survey you can conduct in your own plant.

INDUSTRY AVERAGES . . .
For comparison with your costs, there is a table of average per-cubic-yard costs by types of industry.

CASE HISTORIES . . .
Actual dollar and cents savings effected by six companies and how they did it. Also included in the book are many helpful hints on movement, storage, handling and eventual disposal.

Write Today!

Photo above shows Dempster-Dumpster Container on casters stationed at a point of waste accumulation.



Manufactured By Dempster Brothers, Inc.

THE DEMPSTER DUMPSTER SYSTEM

DEMPSTER BROTHERS, Dept. NE-5
Knoxville 17, Tenn.

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MEASURES MOISTURE IN AIR

Only $33 net, with standard thermometer

With this simple Dewpoint Apparatus, made by Lectrodryer, you can directly read dewpoint of air or gas samples. Dewpoints as low as −76°C can be readily checked. Dewpoint temperature reading can be converted to absolute moisture content. Although the apparatus is simple, its accuracy compares favorably with more expensive gravimetric apparatus.

Available for immediate shipment. Write Pittsburgh Lectrodryer Division, McGraw-Edison Company, 326 32nd St., Pittsburgh 30, Pennsylvania.

Lectrodryer® McGRAW EDISON

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Inside Facts on Outside Grinding

The new Norton publication, *A Report on O.D. Grinding*, brings you many valuable solutions to O.D. problems and analyzes these leading abrasives and bonds:

44 ALUNDUM* (aluminum oxide) abrasive, an ideal cost-cutter . . . 32 ALUNDUM abrasive, for grinding harder steels and other materials . . . other time-tested Norton ALUNDUM abrasives . . . 37 and 39 CRYSTOLON* (silicon carbide) abrasives, for grinding cast iron, carbides, non-ferrous metals, etc.

Vitrified B bond, for best results in most O.D. jobs . . . VE, another popular vitrified bond . . . K bond, outstanding for CRYSTOLON abrasive . . . B11 resinoid bond excels in uniformity with ALUNDUM and CRYSTOLON wheels . . . R51 rubber bond for centerless feed wheels reduces slippage to minimum.

This Report also tells how your Norton Man helps you add the "Touch of Gold" to your grinding, assuring the lowest cost-per-piece produced. Get your copy from your local Norton Representative. NORTON COMPANY, General Offices, Worcester 6, Mass. Plants and distributors around the world.

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NORTON ABRASIVES

Making better products...to make your products better

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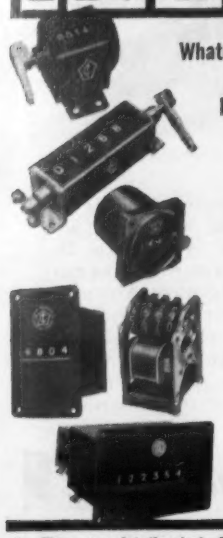
A Complete Line of
COUNTING INSTRUMENTS
from
INTIMEX



Whatever your counting problem, there's a precision-built counter from INTIMEX to solve that problem . . accurately, economically.

You can depend on INTIMEX for rapid delivery of all types of counting instruments, ranging from Small and Medium Size Counters (with or without resets) to High Speed, Quick Reset Electro-Magnetic Counters and Photo Transistor Counters. There's an INTIMEX Counter to insure accuracy in your counting operation . . . INTIMEX takes the thinking out of counting.

Engineering available on special counting problems.

FREE Literature Available, write:

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Richardson Bldg., Bonifant & Fenton Sts.
Silver Spring, Maryland • (Washington, D. C.)

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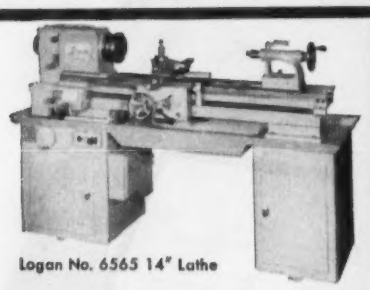
its specifications add up to high production capacity

Logan
14" Lathe

- Spindle speeds to 2000 rpm.
- 1½" Levermatic collet chuck capacity
- 14⅝" swing over bed
- 9" swing over saddle cross slide
- 40" between centers



Logan No. 6565 14" Lathe

Logan's generous combination of high-quality features means greater reliability, accuracy, and longer life.

- **Oversize spindle—1⅝" bore—four super-precision ball bearings—built-in preload**
- **Variable-speed drive—change speed with work turning—without shifting belts**
- **Warp-free lathe bed—high, strong walls braced by oversize ribs withstand heaviest stresses; two V-ways, two flat ways flame-hardened, precision-ground**

These and many more reasons prove Logan's greater working capacity. The specifications tell the story. Write for complete information.

LOGAN ENGINEERING CO.
Dept. Q-559, 4901 Lawrence Ave., Chicago 30, Ill.

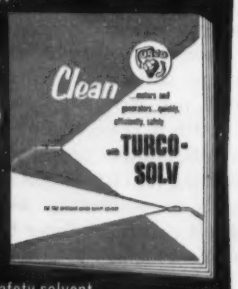
▲ For more details circle NED-433 E9 on enclosed inquiry slip ▲

spray clean

- ELECTRICAL EQUIPMENT
- PLANT EQUIPMENT

free folder

tells why . . . only
TURCO-SOLV



the detergent-action safety solvent offers you this unchallenged combination of user benefits

- SAFE ON ALL EQUIPMENT
- NO RESIDUE
- NON-FLAMMABLE*
- PEAK CLEANING EFFICIENCY
- OPTIMUM EVAPORATION RATE
- LOWER TOXICITY

*UNDER NORMAL USE CONDITIONS

TURCO PRODUCTS, INC.
Chemical Processing Compounds
6135 So. Central Ave., Los Angeles 1, Calif.
Factories: Newark, Chicago, Houston, Los Angeles, London, Rotterdam, Sydney, Mexico City, Naha (Okinawa)
Manufactured in Canada by B. W. Deane & Co., Montreal
Offices in all Principal Cities

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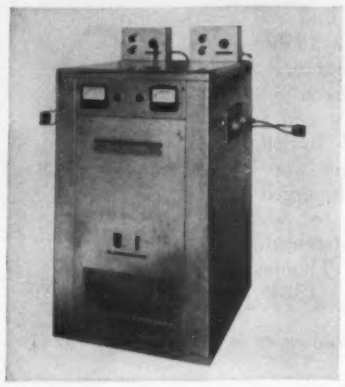
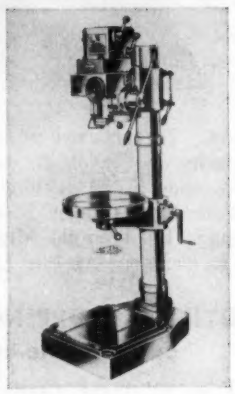
INDUCTION HEATING GENERATOR
output variable from 0.5 to 4.0 kw



Model L4E-C-2 induction heating generator is suited for refining and growing of semiconductor material, inert atmosphere brazing, and high temperature analysis of rare earths and metals. It is available in any output frequency from 200 kc to 3 megacycles. Unit has two station output with manually operated transfer switch. Power input is 230 or 460 v, single-phase, 8 kva at full load output. Stepless output is continuously variable from 0.5 to 4.0 kw. Generator can be supplied with accessory closed loop temperature controller system for automatic processes. Made by **Reeve Electronics, Inc.**, 609 W. Lake St., Chicago 6, Ill.

▲ For more details circle NED-435 E9 on enclosed inquiry slip ▲

DRILL PRESSES
heavy duty units have gear drive



All-gear drive incorporated in line of Swedish-made heavy duty drill presses maintains high torque at low speeds for drilling 1 and 1¼-in. holes in cast iron with hand-fed 18 and 24-in. models, respectively. A 24-in. power feed model is also offered. Speed selection on the four-speed model is by gear shift, and on the eight-speed model, by a built-in two-speed, three-phase motor. Reversing switch for tapping is standard on 24-in. models and optional on 18-in. model. Automatic depth stop provides up to three stops for hand-feed step drilling and interrupted stroke drilling and counterboring. Mechanical head and table lift is provided. The No. 3 MT socket spindle is equipped with a SKF taper roller type bearing. Offered by **Boice-Crane Co.**, 951 W. Central Ave., Toledo 6, Ohio.

▲ For more details circle NED-436 E9 on enclosed inquiry slip ▲

Belt Conveyors

Continental Gin Co.—Principal belt conveyor products made by this company, including heavy duty and standard roller bearing and precision ball bearing idlers, are shown in 88-page Catalog ID-591. Engineering data section aids in selection of belt conveyors and related equipment. Specifications are included.

▲ For more details circle NED-437 E9 on enclosed inquiry slip ▲

HARGRAVE Tested Tools
THE CINCINNATI TOOL COMPANY

HARGRAVE
THE MOST COMPLETE LINE
Individually Power-Tested

WRITE FOR FREE CATALOG
Showing a Clamp for every purpose, openings from ¾" to 12' and depth from 11/16" to 16", also Chisels, Punches, Masonry Drills, Gasket Cutters, Brace Wrenches, File Cleaners, etc.
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THE CINCINNATI TOOL COMPANY
1995 Waverly Ave., Cincinnati 12, Ohio

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PRESSURE SENSITIVE TRANSFER FILM

An instant bonding medium for the temporary or permanent bonding of a full variety of porous and non-porous materials. Double-Face is a translucent adhesive film reinforced by a non-woven tissue and supported for shipping handling and storage by a release-coated protective paper. More versatile than a single or double coated tape.

- 72 linear yard rolls in widths ⅜" up to 54"
- Conforms to irregular surfaces
- Permits better bond of porous surfaces
- Can be slit or die cut with release paper in place
- High-speed applicator available
- Dry-edge release paper available in some widths

Write for free literature and sample.

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INTERCHEMICAL CORPORATION
Finishes Division
120 Potter St., Cambridge 42, Mass. Midwestern Plant: Huntington, Indiana

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CALL **OL**YMPIA **7-1818**
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ALL SIZES, ALL SHAPES, ALL GRADES IN STOCK

Magnets for every use . . . Alnico and ceramic . . . sintered and cast . . . are available from our huge stock. Our services include engineering, precision grinding, precision cutting and magnetizing. 24-hour delivery. Write for catalog.

PERMAG CORPORATION
88-06 VAN WYCK EXPRESSWAY, JAMAICA 18, N.Y.

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WRITE FOR BULLETIN 301 . . . and if you want immediate proof of Federal's ability to produce top quality stampings—send along a part print or sketch for an analyzed quotation.

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For better stampings . . . better contact Federal.

QUALITY STAMPINGS
FEDERAL
IN SMALL QUANTITIES

3 PLANT LOCATIONS
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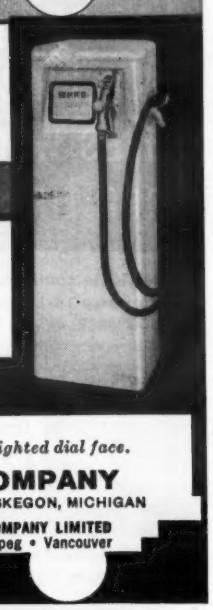
918 Lyell Avenue, Rochester 6, N. Y.
FEDERAL STAMPING COMPANY
7318 Atoll Ave., No. Hollywood, Calif.

▲ For more details circle NED-441 E9 on enclosed inquiry slip ▲

FLEET JR.
GASOLINE PUMP



Faster, easier, safer refueling — direct drive rotary vane pump delivers up to 12 gpm over a 10-foot lift. Padlock provision ends pilferage.

51 inches high — convenient nozzle location and easy-to-read tilted dial face. Helps you control fuel costs. Sturdy steel construction — lowest maintenance costs.

Available with lighted dial face.

JOHN WOOD COMPANY
BENNETT PUMP DIVISION MUSKEGON, MICHIGAN
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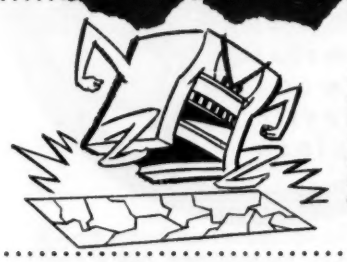
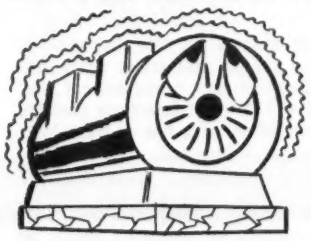
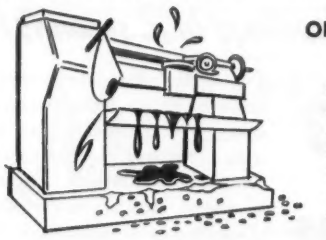
If you have any of these MACHINERY FOUNDATION PROBLEMS in your plant . . .



IMPACT
Eliminate cracked, shattered bases under drop forges, presses, shears and other heavy equipment with high-strength No. 648 Grout.



VIBRATION
Avoid damage to valuable equipment! No. 648 Grout actually bonds to metal . . . permanently anchors compressors, pumps, engines and motors.



OIL OR CHEMICAL DAMAGE
Prevent foundation crumbling and spalling! Non-porous No. 648 Grout is completely impervious to oils . . . resists most chemical attack.

8808-CC

you need
CEILCOTE No. 648 GROUT

Only Ceilcote No. 648 Grout combines high strength with corrosion resistance and metal-bonding qualities to end costly damage, repairs, and downtime. No. 648 Grout handles easily . . . sets-up within 24 hours without shrinking or settling . . . yet is five times stronger than concrete! Get all the facts before starting your next grouting job.

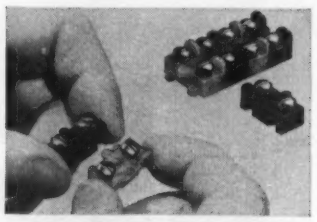
Send for Technical Sales Bulletin today!

ANOTHER FIRST BY CEILCOTE

CEILCOTE
THE CEILCOTE COMPANY, INC.
4838 Ridge Road • Cleveland 9, Ohio

▲ For more details circle NED-443 E9 on enclosed inquiry slip ▲

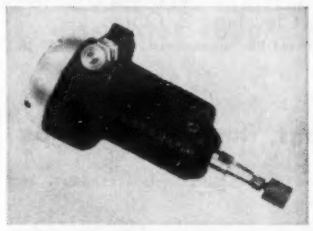
SMALL TERMINAL BLOCKS
in ten colors, will snap together



Series G Alpha semi-elastic Zytel terminal blocks, available in ten colors for circuit coding, snap together to form rigid rows. As many as 15 blocks can be snapped together and mounted with one screw at each end without risk of blocks coming apart. The ¾ x ⅜ x 13/32-in. block is rated 20 amp at 110 v. Electrical connection between pairs is an integral part of the block. No tools are required for assembly or disassembly. Made by **Alpha Electric Products Co.**, 3625 N. Halsted St., Chicago 13, Ill.

▲ For more details circle NED-444 E9 on enclosed inquiry slip ▲

HAND GRINDER
pneumatic unit runs at 75,000 rpm



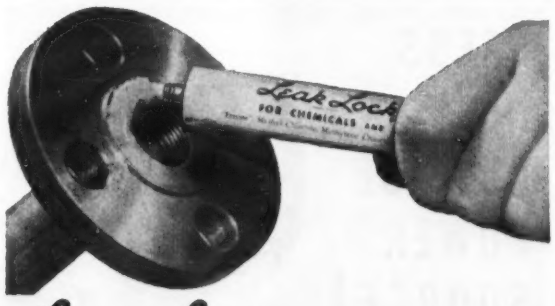
Pushbutton stop brake and a speed regulator for rotary files and burrs are features of the Air Jet hand grinder. The 16-oz, 75,000-rpm tool has a sound muffler and a needle point shut-off valve. It requires 70 to 100 psi air. Chuck opening is ⅛ in. An extended, 1-in. long shaft takes 0 to ⅞-in. diameter wheels. Made by **M-F Engineering Co.**, 13828 S. Western Ave., Blue Island, Ill.

▲ For more details circle NED-445 E9 on enclosed inquiry slip ▲

TOOL STORAGE EQUIPMENT
shelving offered with accessories

Line of tool storage inserts and shelving accessories is offered with this tool storage equipment. Standard shelving sections can be tailored to meet changing requirements. No tools are required for clip-and-stud assembly. Shelving sections can be combined with sloping front tool storage inserts for drills, taps, and small tools; swinging mounting panel inserts for milling cutters; shelf boxes; shelf dividers; and bin fronts. Among other accessories are shelf, pigeon hole, and sloping compartment inserts; drawer trays; and shelf separators. Made by **Lyon Metal Products, Inc.**, 3 Plant Ave., Aurora, Ill.

▲ For more details circle NED-446 E9 on enclosed inquiry slip ▲



Leak Lock **STOPS LEAKS**
where other compounds fail!

Here's a simple, economical solution to many troublesome leaking joint problems. Leak Lock holds LP, gasoline, oils, gases, petro-chemicals and refrigerants that eat through ordinary joint compounds. Its remarkably tough, highly adhesive, remains flexible indefinitely . . . the joint compound that stretches rather than breaks. Years of use have established its advantages in stopping wasteful or hazardous leaks in the petroleum, chemical, atomic energy, electronic, refrigeration and other fields.

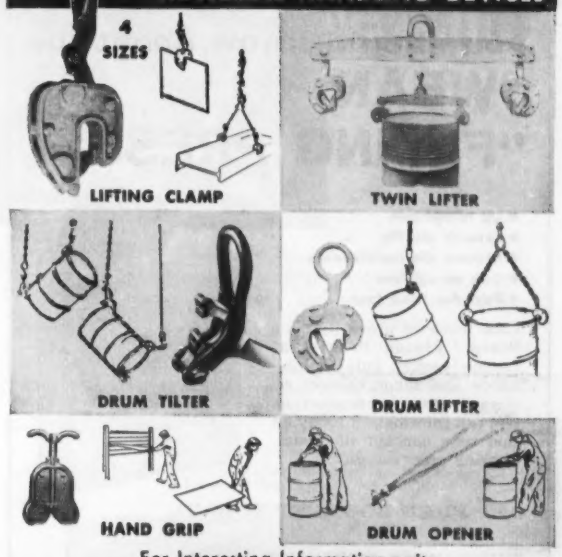
Approval by Underwriters' Laboratories for Gas and Oil Equipment List: Also for Propane and Butane.

FREE SAMPLE—Leak Lock is available in handy tubes and in cans. Write on your letterhead for sample tube.

HIGHSIDE CHEMICALS INCORPORATED
14 Colfax Avenue • Clifton, N. J.

▲ For more details circle NED-447 E9 on enclosed inquiry slip ▲

YOUR BEST MOVE IS TO MOVE WITH
MERRILL
MATERIAL HANDLING DEVICES



For Interesting Information write

MERRILL BROTHERS
56-13 Arnold Ave., Maspeth, N. Y.
3-R-5

▲ For more details circle NED-448 E9 on enclosed inquiry slip ▲

MOTORIZED LIFT TRUCK BATTERY CHARGER ELIMINATES SPECIAL WIRING

- No special wiring required.
- Plugs into a standard 15-ampere, 60-cycle, 115 v convenience outlet.
- Long, trouble-free life.
- Convection cooled, requires no maintenance.
- No aging adjustments required.
- Can be wall or battery mounted.
- Fully automatic; portable.
- For all 12-volt hand motorized lift truck batteries, up to 660 A.H.

Write for complete details in Bulletin AR-100.

C&D *AutoReg*®
Silicon Chargers

A PRODUCT OF C&D BATTERIES, INC.
OF CONSHOHOCKEN, PA. . . . ATTICA, IND.

Manufacturers of Apparatus® Industrial Batteries
PLANTELL® and PLANTOLT® Batteries for Communications, Control and Auxiliary Power • Producers of Autoreg® Silicon Chargers
*Trademark

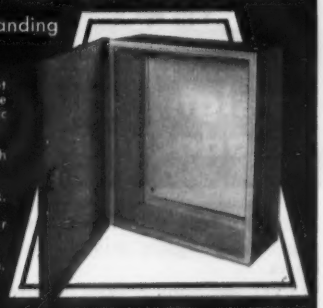
▲ For more details circle NED-449 E9 on enclosed inquiry slip ▲

McKINSTRY
NEMA TYPE 1 PANEL ENCLOSURES

✓ Check these Outstanding FEATURES

1. Made of bonderized sheet with a baked white enamel interior and zinc chromate exterior.
2. Lift off hinges. Plated flush latches.
3. Mounting holes on back.
4. Removable panel for mounting controls.

13 standard sizes available.



PERFECT PROTECTION for electrical and electronic controls not requiring the dust and oil tight features of the McKINSTRY NEMA Type 12 Panel Enclosure. McKINSTRY offers low prices and quick delivery on these rugged general purpose panel enclosures that are built in accordance to NEMA standards.

WRITE DEPT. O for catalog and price list showing complete line of McKINSTRY Electrical Boxes, Panel Boards, Wireways and Fittings.

McKinstry Metal Works, Inc.
285 McKinstry Avenue
CHICOPEE, MASSACHUSETTS

▲ For more details circle NED-450 E9 on enclosed inquiry slip ▲

if you produce
STAMPINGS
you should know about the
WEAN "FLYING PRESS"

- Up to 600 spm
- Extends die life
- Reduces die maintenance
- Cuts set-up time
- Pays for itself fast

Case histories prove that the Wean "Flying Press" increases profits, cuts maintenance and labor charges on quantity stamping production. Get full information today on this new concept of metal-working press design.

GET FREE BOOKLET TODAY!

WEAN EQUIPMENT CORPORATION
Cleveland 17, Ohio
WEAN

▲ For more details circle NED-451 E9 on enclosed inquiry slip ▲

THESE MUELLER BRASS CO. ENGINEERING MANUALS help you select the best materials and best methods of fabricating a product

Mueller Brass Co. engineers have carefully selected and compiled the data contained in these technical manuals. Send for any or all of the free manuals that interest you; check appropriate box, clip out and mail with your return address.

- ☐ FORGINGS
- ☐ 600 SERIES BEARING ALLOYS
- ☐ COPPER BASE ALLOYS IN ROD FORM
- ☐ SCREW MACHINE PRODUCTS
- ☐ TUF-STUF ALUMINUM BRONZE
- ☐ COLD-PREST IMPACT EXTRUSIONS
- ☐ SINTEEL POWDER METAL PARTS
- ☐ FORMED COPPER TUBING

MUELLER BRASS CO. PORT HURON 37, MICHIGAN

▲ For more details circle NED-452 E9 on enclosed inquiry slip ▲

HACKNEY SHAPES end design headaches

Shown 1/48 actual size

Hackney deep drawing methods for cold metal forming help simplify missile parts (above) and reduce costs.

Perhaps your products, too, can be made lighter, stronger, faster through Hackney deep drawing methods.

We make shapes and shells in cylindrical, spherical, conical or tapered forms...in capacities from one quart to 100 gallons...with dimensions held to rigid tolerances...Perhaps one of our standard shells can cut your production costs at once.

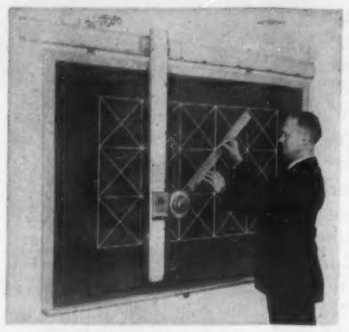
Send sketch of your design or production problem for recommendations. Write:

Hackney
Pressed Steel Tank Company
Manufacturer of Hackney Products
1450 S. 66th Street, Milwaukee 14, Wisconsin
Branch offices in principal cities

CONTAINERS AND PRESSURE VESSELS FOR GASES, LIQUIDS AND SOLIDS

▲ For more details circle NED-453 E9 on enclosed inquiry slip ▲

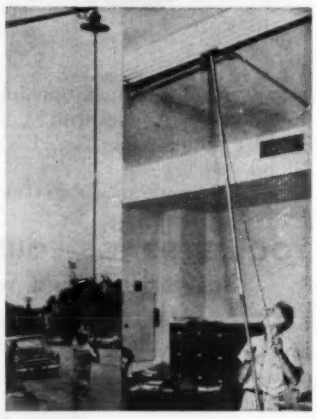
DRAFTING MACHINES
measures and plots on chalkboard



Easy and accurate measuring and plotting of lines, angles, and curves directly on a chalkboard is possible with the Tracmaster drafting machine. It is suited for making intricate drawings and sketches on meeting and conference room chalkboards, and can be used for lectures, training, and instruction. Machine glides horizontally and vertically across the board. The protractor and scale rotate freely, and lock in position at any drawing angle. A compass point locator or holder is provided at the end of the graduated scale. Unit mounts on the wall above the chalkboard. Made by **Universal Drafting Machine Corp.**, 7960 Lorain Ave., Cleveland 2, Ohio.

▲ For more details circle NED-454 E9 on enclosed inquiry slip ▲

LAMP CHANGERS
for incandescent, fluorescent lamps



High - mounted incandescent lamps and fluorescent or slimline tubes are easily changed by three Lamp Snatchers. The devices enable user to change 20 ft high lamps from the floor in most installations. Model I incandescent Snatcher is a single head unit for all bulbs from 25 to 1500 w, including flood, spot, flat-bottom, and conventional round bulbs mounted vertically, horizontally, or at an angle. Model F fluorescent unit changes twist type (bi-pin) tubes and starters in open type fixtures. Sizes for 1½ and 2⅛-in. tubes are offered. Model S Snatcher for slimline tubes handle both T-8 and T-12 single-pin lamps of any length. An adapter for 1-in. tubes is also available. Made by **Phil Rich Fan Mfg. Co.**, Lamp Snatcher Div., 2900 Caroline St., Houston 4, Tex.

▲ For more details circle NED-455 E9 on enclosed inquiry slip ▲

Servo Mechanisms & Components

Precision Mechanisms Corp.—Virtually unlimited variety of geared mechanisms for use in breadboarding, prototype, and production may be assembled from the mechanisms and components for servo and instrument fields described in 6-page illustrated Bulletin 102-58. Gear ratios range from 1:1 to 78,125:1.

▲ For more details circle NED-456 E9 on enclosed inquiry slip ▲

NEEDS NO OUTSIDE POWER SOURCE!

Partlow Gas Control Model 40

PARTLOW
Throttling Gas Valve

Partlow gas controls for heating appliances are completely self-contained—need no outside power or extra accessories. Accurate...maintain exact temperatures without seesawing or overshooting. Convenient...elements can be changed at the job site. Available in 9 optional temperature ranges up to 1100°F., and in models to accommodate pressures up to 20 psi., and pipe sizes from ¼ to 3 inches.

For details write Dept. N-559
The Partlow Corp., New Hartford, N.Y.

PARTLOW
TEMPERATURE CONTROLS

▲ For more details circle NED-457 E9 on enclosed inquiry slip ▲

Automatic USS Strapping Machine saves work and time

Model 12 is completely automatic, makes up to 24 ties a minute, uses 14-18-gauge, low-cost Round Steel Strapping, handles packages up to 26" wide by 20" high.

Formerly Gerrard Steel Strapping

Technical Assistance. Our Strapping Specialists will gladly assist in solving your packaging problems. WRITE for free copy of our Sweet's Catalog insert for information about our complete strapping service. *USS is a registered trademark*

U. S. Steel Supply Division of United States Steel

Steel Service Centers and Complete Strapping Service, Coast to Coast

▲ For more details circle NED-458 E9 on enclosed inquiry slip ▲

USE THE
Nissen
BALL POINT WRITING TUBE
make permanent marks on
metal wood plastic glass

This ball point marker saves considerable time in marking, numbering or coding products made of wood, metal, plastic and glass. It is widely used because:
• tube with ball point makes application easy on rough or smooth surfaces • special, fast drying opaque ink withstands heat and weathering • marks will not chip, peel, fade or rub off • 7 different colors are available • 3 different size ball points make fine or broad lines

Write, wire or call for a trial order

JOHN P. NISSEN, JR. Co., *manufacturers*
GLENSIDE, PENNSYLVANIA • CALL TUrner 4-4664

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Hardness Readings in 2 seconds!

Webster
PORTABLE Hardness Testers FOR NON-FERROUS METALS

TWO LOW-COST MODELS differing in sensitivity for rapidly testing hardness of aluminum, brass, copper, etc. No training required; one hand operation. Hardness readings in 2 seconds anywhere in shop. Can be correlated to standard hardness scales. Quick reading dial. Special anvil design tests all shapes: sheets, extrusions, tubing, strip stock. Capacity ¼". Simple, rugged design, easy maintenance.

MODEL B Direct hardness readings on all aluminum alloys.

MODEL B-75 Direct hardness readings on copper, brass, etc.

Other models available

WEBSTER INSTRUMENTS, INC. Dept. N, 11856 Mississippi Ave. Los Angeles 25, California

▲ For more details circle NED-460 E9 on enclosed inquiry slip ▲

Bowser remote control valves for hazardous liquids

Do these things

1. Simultaneously control flow of liquid in pipe and start or stop pump.
2. Operate one or more discharge lines from single remote power pump.
3. Provide safety factor required for insurance approval.

Bowser Figure 221 Remote Control Valve consists of a quick-acting bronze gate valve and explosion-proof mercury switch integrated for easy, in-line mounting on any pipe line. Valve and switch are actuated by weighted handle. When handle is released, flow and pump stop simultaneously.

WRITE FOR BULLETIN 221 BOWSER INC.

Regional Offices: ATLANTA, BOSTON, CHICAGO, CLEVELAND, DALLAS, KANSAS CITY, LOS ANGELES, NEW YORK

1387 E. CREIGHTON • FORT WAYNE, IND.

▲ For more details circle NED-461 E9 on enclosed inquiry slip ▲

The OFFICE VALET

Answer the Wraps Problem in Offices and Waiting Room

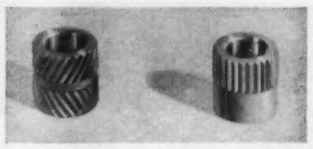
These efficient VALET Racks keep wraps off waiting room chairs, aired, dry and in press. Hold coats spaced apart, hats, umbrellas and overshoes. Accommodate 3 persons per running foot. Come in lengths of 3 ft 3 in. or longer by the foot. The S-6 Office Valet costumer accommodates 6 people—ends piling of garments on others. Will not tip over. Built for lifetime service of heavy gauge, welded furniture steel. Smart in modern baked enamel finishes. Units form a complete system of wardrobe equipment that provides efficient wrap accommodation wherever people gather.

Write for Bulletin OV-8

VOGEL-PETERSON CO.
1121 West 37th Street Chicago 9, Illinois

▲ For more details circle NED-462 E9 on enclosed inquiry slip ▲

DRILL JIG BUSHINGS
usable in plastics, soft materials



These two basic types of drill jig bushings are made of oil-hardening bearing steel and are designed for use in plastics. The Trans-Lok bushing at left, for embedding in castable materials, has two rows of herringbone serrations running in opposed patterns and separated by a groove. These bushings cannot be turned in either direction, nor pulled or pushed out of the jig. Liner bushings for guiding drills and reamers are also available in this pattern. Press-Lok bushing at the right, has straight serrations on the upper half. It is pressed into holes in plastic, wood, or other soft, ductile materials. Made by **Ex-Cell-O Corp.**, 1200 Oakman Blvd., Detroit 32, Mich.

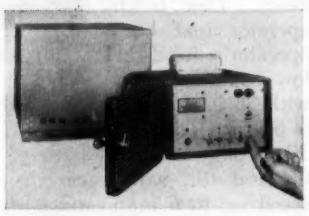
▲ For more details circle NED-464 E9 on enclosed inquiry slip ▲

UNDERGROUND TANK VENT
dissipates vapors to atmosphere

Diffusing and dissipating action of this vent for fuel and other underground storage tanks prevents accumulation of vapors and eliminates fire hazards. Baffles prevent moisture from entering tank. Made of aluminum alloy, it is easily slipped over a 2-in. vent pipe and is secured with a set screw. It also serves as a fire screen and prevents entrance of insects or dirt. Price is $2.40. Made by **Morrison Bros. Co.**, Dubuque, Iowa.

▲ For more details circle NED-465 E9 on enclosed inquiry slip ▲

CARTON SELECTOR
counts, sorts any of 30 items



Selection of any type of case, box, or carton, regardless of size or shape, is by a five-bar code read by the Model 410 carton selector. Any one of 30 different items may be counted and sorted by the transistorized 7½ x 6½ x 6-in. device as it moves along a conveyor or similar material flow line. An output signal is provided to activate a conveyor switch and thus automatically control the flow of goods and sort items for further processing. Up to 30 items may be separately coded with the five vertical bars. Selector switches are set to recognize any one of the markings as cartons pass at speeds up to 180 fps. The code can be printed on the cartons at the same time other printing is done. Made by **Atronic Products, Inc.**, 1 Bala Ave., Bala-Cynwyd, Pa.

▲ For more details circle NED-466 E9 on enclosed inquiry slip ▲

Here's the most VERSATILE CRANE you can buy!

THIS BROCHURE describes the full line, complete with all specifications.

Available in seven models, with capacities from one-half to three tons. Every Tubarcrane has a three-position built-in extension boom—no extras to buy! Pumping effort is easily adjustable. Tilt-back mast provides more area for lifting bulky loads. Write for literature today!

Jobber Territories Available

Also request literature on Tubar Hand Trucks, Platform Trucks, Tubarlifts

U-159-45

Tubar ASSURES QUALITY
UNDEN, INC. • DENNISON, OHIO
LIFTS • DUMPERS • CRANES

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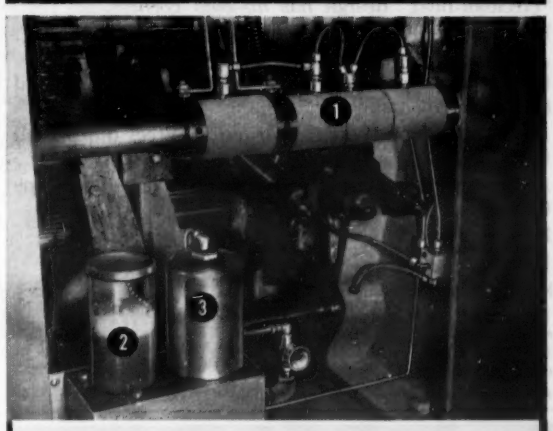
costs less...

Alemite Accumite System

MAKES CENTRALIZED LUBRICATION ECONOMICAL FOR ANY MACHINE!



ACCUMITE LUBRICATES 24 POINTS OF SPRING WINDING MACHINE. 1. Valves mounted directly on bearings. 2. Transparent lubricant reservoir. 3. Manually controlled air pump, actuated by "push-pull" valve.

The small size and simple installation of Alemite's Accumite System makes centralized lubrication economical for original design on many machines where it has previously been considered too costly. Complete with fully automatic pump, metering valves and controls, Accumite offers all the advantages of higher-priced systems.

Accurately meters these shots of oil or grease:

.003 cu. in. .006 cu. in. .009 cu. in.

Available with adjustable fittings for applications requiring measured metering from .003 to zero.

- Meters exact amount of refinery-clean lubricants to all bearings whenever system is operated.
- Eliminates shutdown time for lubrication.
- Seals bearings against dirt, grit and water.
- Prevents bearing troubles due to neglect or use of wrong lubricants.
- Services all bearings in one operation.
- Avoids work spoilage and bearing repairs due to overlubrication.

Send for Alemite Accumite catalog!

Symbol of SW Excellence — ALEMITE DIVISION STEWART-WARNER CORPORATION

Dept. HH-59, 1850 Diversey Parkway, Chicago 14, Illinois

▲ For more details circle NED-468 E9 on enclosed inquiry slip ▲

Nutting shows you "HOW"...

to save up to $5.00 on each floor truck wheel replacement

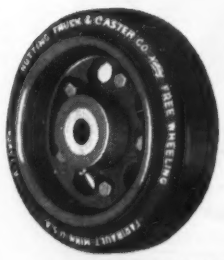
It makes good sense to equip all your floor trucks and trailers with Nutting *Demountable* rubber tired wheels. *First*, you save costly downtime because tires can be replaced in minutes, on-the-job. *Second*, you can save up to $5.00 on each tire replacement over the cost of complete molded-on wheels. In most cases—even complete wheel costs are less with Nutting Demountables. (See chart below.) Multiply those savings by the number of replacement tires or wheels your company buys each year and you'll see why Nutting is your best, *and* most economical buy!

* Nutting Demountable		* Molded-on Rubber Tired Wheel			
Complete Wheel	Tire Only	Brand A	Brand B	Brand C	Brand D
$5.35	$3.25	$8.25	$6.30	$7.60	$4.40

* 6" diameter wheel in normal purchase quantities.

For complete money saving facts about Nutting Demountables, send for your free copy of Bulletin "D".

See us—Material Handling Institute's Exposition, June 9-12

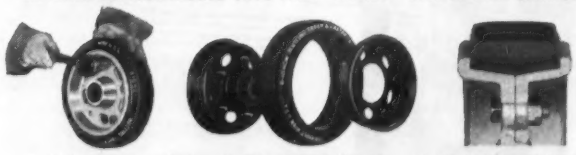


Nutting—The world's only complete line of demountable rubber tired wheels!

RMD Type — Regular and medium heavy duty. Diameters — 4" through 18." Capacity range — 250 lbs. through 1250 lbs. per wheel.

RHD Type — Heavy and extra heavy duty. Diameters — 6" through 18". Capacity range — 550 lbs. through 1800 lbs. per wheel.

NUTTING DEMOUNTABLES SAVE TIME—MONEY—GIVE BETTER SERVICE!



1. Socket, box or offset open end wrench loosens nuts and bolts.
2. Hub, rim and tire are separated and reassembled with new tire in seconds.
3. No stretch, no creep with exclusive Nutting rim and tough fibre base design.

Nutting TRUCK AND CASTER COMPANY

500 Division St. • Faribault, Minn.

Export Sales: School International, Inc., 5909 North Lincoln Ave., Chicago 45, Ill.

▲ For more details circle NED-463 E9 on enclosed inquiry slip ▲

HYDRAULIC

REMOTE CONTROL

SYSTEMS

Completely self-contained . . . single tube . . . remote control eliminates use of compensators. Rugged and reliable . . . used in engine, machine tool and many other factory applications . . . wherever positive, accurate, instant duplication of movement is needed . . . no "sponginess."

EASILY INSTALLED

Sperry CONTROLS

HYDRAULIC REMOTE CONTROLS

Representatives in Principal Cities

SPERRY PRODUCTS, INC. · 1705 SHELTER ROCK RD. • DANBURY, CONN.

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new..... HEVI-DUTY CIRC-O-THERM OVEN

Temperatures to 250° C. (480° F.)

Improved Temperature Uniformity with Hevi-Duty's "circle-of-heat" design has *no cold corners.*

Fast Heat-Up. To 200° C. in less than one hour.

Low-Cost Operation on either 115 or 230 volts. Selector switch permits high or low input to enclosed heating elements.

Durable Double-Wall Construction. Steel outer shell is prime coated on both sides to prevent corrosion.

Accurate Temperature Control by sensitive bulb-type thermostat permits little lag or overshoot.

For complete information, write for Bulletin 458.

PRICE $169.00

Hevi-Duty Laboratory Oven, Model HK

15" diameter, 13" deep work chamber. Over-all dimensions, 20" wide, 18" deep, 23" high. Removable shelves for easy cleaning.

HEVI-DUTY ELECTRIC CO. Milwaukee 1, Wisconsin

▲ For more details circle NED-470 E9 on enclosed inquiry slip ▲

LIGHT WHEN YOU NEED IT

. . . automatically with F-P controls

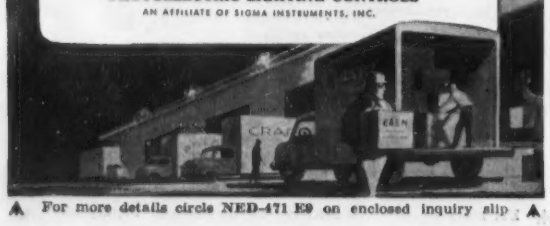
Fisher-Pierce photoelectric lighting controls automatically turn on lights in parking lots, railroad yards, docks, loading areas, storage and security areas—whenever daylight drops to preset turn-on setting—regardless of weather or time of day. Turn-on setting is adjustable, never needs re-setting; various models available with turn-on from 1 to 500 f.c. Easy to install, housed in weatherproof watt-hour meter case. Reliability and ruggedness proven by ten years of use.

Standard Model 63300C switches lamp loads up to 3000 watts, special model switches 6000 watts; SPST, SPDT or DPST power contactors. For 105-130 or 210-250V, 50/60 cycles. For larger loads, control can be used with low-cost F-P Type 250A-Multiple Relays. Bulletin on request. Write The Fisher-Pierce Co., 44 Pearl Street, So. Braintree 85, Mass.

FISHER FP PIERCE

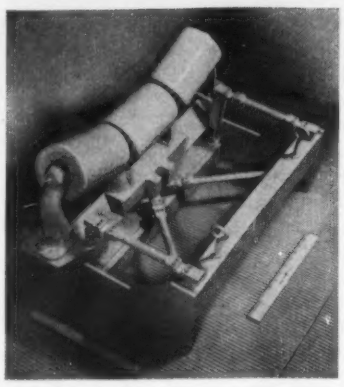
PHOTOELECTRIC LIGHTING CONTROLS

AN AFFILIATE OF SIGMA INSTRUMENTS, INC.



▲ For more details circle NED-471 E9 on enclosed inquiry slip ▲

ELECTRONIC CONVEYOR SCALE for 14 to 72-in. wide belts



This continuously totalizing scale, which mounts between strands of any standard flat or trough belt conveyor from 14 to 72 in. wide, is used in simple weighing processes, proportioning, feeding, and physical sampling systems. It has an electrical transducer to convert instantaneous load weight into proportional voltages for continuous integration and digital display. Flexure wishbone assembly restrains scale idler in horizontal movement, allowing only vertical weight displacements to be measured. Made by **Bell Automation Corp.**, 125 College Ave., Rochester 7, N. Y.

▲ For more details circle NED-472 E9 on enclosed inquiry slip ▲

ELECTRIC LIFT TRUCKS turn right angles in 58-in. aisle

High degree of maneuverability in F-48T2 and F-48T3, 2000-lb and 3000-lb capacity electric fork lift trucks is achieved with wheelbase of only 36 in. This enables trucks to make right angle turns in a 58-in. aisle. Trucks can stack at right angles in 109¼-in. wide aisles. Low height operator seat keeps operator's head below top of upright for safety in low headroom areas. Truck measures 97⅝ in. long with 36 in. forks, 38½ in. wide, and its upright height is 68 in. Total lifting height is 111 in. Powered by 30 or 36-v lead acid battery, truck features hydraulic lift and tilt, worm gear drive reduction unit, travel speed up to 6 mph, and 45-fpm lift speed. Made by **Elwell-Parker Electric Co.**, 4205 St. Clair Ave., Cleveland 3, Ohio.

▲ For more details circle NED-473 E9 on enclosed inquiry slip ▲

Servos, M-G's & Synchros

Kearfott Co.—Condensed Catalog 2-15-59 contains all pertinent data on a comprehensive line of servo motors, tachometers and motor-generators, synchros, and resolvers. Performance characteristics of each size and type of these rotary components are given.

▲ For more details circle NED-474 E9 on enclosed inquiry slip ▲

LUBRICATION ENGINEERS . . . write for this folder

the MEYERCORD co.

Dept. H-316, 5323 West Lake St., Chicago 44, Illinois

▲ For more details circle NED-475 E9 on enclosed inquiry slip ▲

THIS BOX DO

1. PRODUCTION. Combined with Union Metal positioning stand this box provides automatic work-level positioning of material. Eliminates old-fashioned stoop-stretch-bend methods.

2. UNIT LOADS. Transfer, storage, stacking with fork truck . . . just like ordinary skid boxes.

3. DUMPING. Hinged drop-bottom feature automatically discharges parts or scrap quickly and with perfect control.

In addition, Union Metal offers industry's broadest line of conventional type material handling containers. Write for complete catalog information. Address The Union Metal Manufacturing Company, Canton 5, Ohio.

UNION METAL

Material Handling Equipment

▲ For more details circle NED-476

Electrical Protection goes M

with BUSS Fuses . .

in the MORTON SALT BUILDING

The beautiful new Morton Salt Building is located at 110 North Wacker Drive — just outside the Chicago Loop.

The most modern and safest electrical protection was needed because the engineers estimated the available fault current might easily reach a value of 75,000 amperes.

BUSS Hi-Cap fuses and FUSETRON dual-element fus their high inter proven dependab

With Fuses Rem

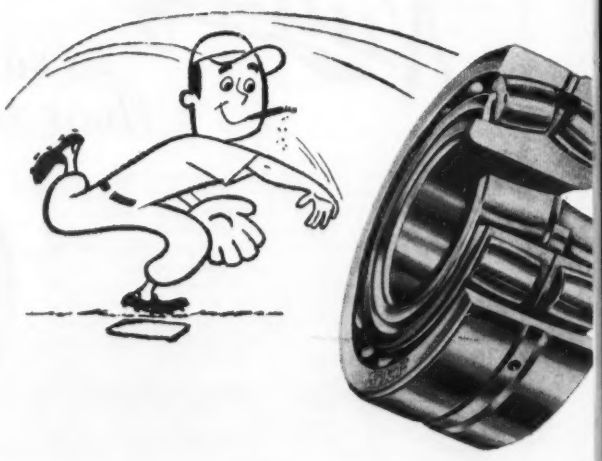
A fuse cannot when electrical t 5 years or 20 y will provide the protection as on t

459 BUSSMANN MFG. DIVISION, *McGraw-Edison Co.* University at Jefferson

There's a BUSS or FUSETRON f

▲ For more details circle NED-477

The Authorized S

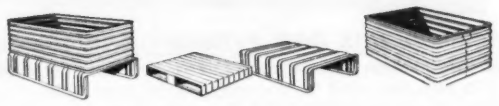


Spherical, Cylindrical, Ball, and "Tyson" Tapered Roller Be

▲ For more details circle NED-478

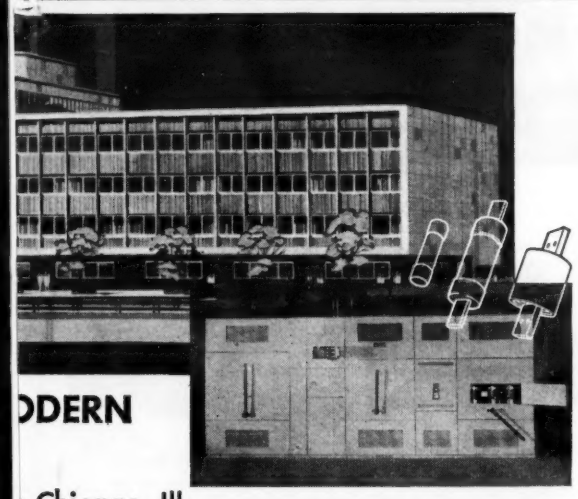
DES 3 JOBS!

THE WORK-O-MATIC*



*Registered Trade Mark

E9 on enclosed inquiry slip ▲



ODERN

Chicago, Ill.

s were installed for upting capacity and ity.

Safe Protection ains Safe

tick or fail to operate ouble occurs. 1 year, ars from now, a fuse same, high degree of e day it was installed.

Morton Salt Building: The main switchgear — 1-4000 amp, 1-2000 amp and 1-1200 amp pressure switch, completely equipped with BUSS Hi-Cap fuses — and for coordinated, dependable, trouble-free protection distribution panels are equipped with FUSETRON dual-element fuses.

For more information
On BUSS Hi-Cap fuses, *write for bulletin HCL*
On FUSETRON fuses, *write for bulletin FIS*

St. Louis 7, Mo.

se for every Electrical Need.

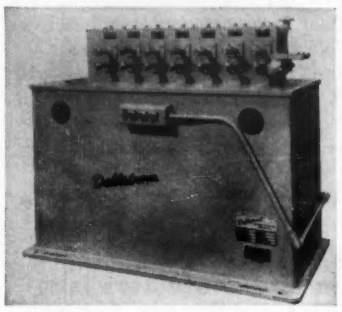
E9 on enclosed inquiry slip ▲

DESCALING NOZZLES
with tungsten carbide orifice tips

Exceptional resistance to abrasion at the high pressures and large capacities normally used in descaling is assured by the tungsten carbide orifice tips featured by No. ¾ USSTC-E descaling nozzles. Service life is extended up to 20 times. Insert is solidly enclosed by the nozzle cap. Relatively large elliptical orifice allows passage of foreign particles that would normally clog a slot-type orifice. Seven capacities are offered by **Spraying Systems Co.**, 3211 Randolph St., Bellwood, Ill.

▲ For more details circle **NED-479 E9** on enclosed inquiry slip ▲

ROLL FORMING MACHINE
roll diameter range is 2½ to 3¼ in.



Moldings, weather-stripping, curtain rods, and many other items can be produced on the Model 150 rolling forming machine. Of welded steel construction and spur gear design, it has spindles mounted on anti-friction bearings. Roll diameter range is 2½ to 3¼ in. and horizontal center-to-center distance is 5 in. Either open front (illustrated) or outboard type machines are offered. Made by **Dahlstrom Machine Works, Inc.**, 4227 W. Belmont Ave., Chicago 41, Ill.

▲ For more details circle **NED-480 E9** on enclosed inquiry slip ▲

BRAZING & SOLDERING KIT
contains silver alloy, solder, flux

All materials for emergency repair and maintenance are contained in the Kwik-Kit for hard and soft soldering work. Silver brazing alloy and soft solder in kit will join stainless steel, steel, iron, copper, brass, bronze, platinum, gold, silver, Monel metal, nickel, nickel silver, german silver, chrome steel, beryllium copper, and various other ferrous and nonferrous metals. It is not suited for aluminum, magnesium, and titanium joining. Fluxes for both types of solder are in easy-to-use unbreakable squeeze bottles. Kit is packaged in a rigid transparent plastic box. Price is $8.75. Made by **Special Chemicals Corp.**, 100 S. Water St., Ossining, N. Y.

▲ For more details circle **NED-481 E9** on enclosed inquiry slip ▲

for your

magnet problems

F-300 CERAMIC
PERMANENT MAGNETS

- ✓ Economical Piece Price
- ✓ Economical Tooling
- ✓ Prompt Delivery
- ✓ Engineering and Sample Service

for

- ✓ Latches
- ✓ Can Openers
- ✓ Toys, Games, Novelties
- ✓ Bulletin Boards
- ✓ Etc.

Write for Brochure 1-59

d. m. STEWARD
MANUFACTURING CO.
3620 Jerrome Ave.
Chattanooga 1, Tenn.

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HALT
PRODUCTION LOSS from belt lacing downtime

You cut unproductive downtime and save maintenance time and expense 2 ways with Clipper Hooks and Lacers. 1. Clipper machine-laced joints outlast other belt joints several times over to minimize replacement. 2. When worn belts must be replaced or slack belts tightened, the Clipper machine method is faster than other methods.

Start saving money today with Clipper Hooks and Lacers. Write for Bulletin 157.

Ask your Industrial Distributor for Clipper Products

Clipper BELT LACER COMPANY

976 Front Ave., N. W., Grand Rapids 2, Michigan

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SKF *Distributor comes through on deliveries*

Try him on any type and size of bearing. He'll come through —because he stocks SKF bearings, the most complete line of types and sizes available today. And nobody (but nobody) can get them to you any faster.

5918

EVERY TYPE—EVERY USE
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SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.

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*REG. U. S. PAT. OFF.

9 on enclosed inquiry slip ▲

SAFETY AT LOW COST!

For Paint Spraying and Organic Vapors

use the popular, *job-tested* AO R2031 Respirator. One of our R2000 Series, quickly interchangeable cartridge respirators that save money because they save inventory. Its comfort, low breathing resistance, and all-around efficiency have earned nation-wide customer acceptance and wide use. Adsorbs vapors of benzene, xylene, toluene, gasoline, naphtha, acetone, turpentine and other organics. Compare! Your nearest American Optical Safety Products Representative can supply you.

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Always insist on Trademarked Safety Products

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Stop Corrosion "Cold" at Red Hot Heats!

MARKAL "S-R" COATINGS—
give permanent protection to metals against corrosion, oxidation and scaling at temperatures as high as 2200°.

You can use "S-R" on a wide variety of applications such as stacks, retorts, furnaces, ducts, kilns, exhausts, mufflers, manifolds and many others. There's no peeling or cracking even during sudden temperature changes.

Markal "S-R" is easy to use, can be brushed or sprayed.

WRITE on company letterhead for complete information, literature and recommendations.

MARKAL . . . The Mark of Quality

MARKAL COMPANY

3053 West Carroll Avenue Chicago 12, Illinois

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with Cleco's 3-in-1 drill screwdriver nut runner

Cleco's 10 Series Drill-Screwdriver-Nut Runner saves money because you can:

1) *Reduce tool inventory.* Gear trains, motors, handles, and chucks may be interchanged. With a limited number of parts, you have a drill-screwdriver-nut runner with gear reductions for various speeds.
2) *Reduce operating costs.* These tools are equipped with new air motors that give more power, yet consume less air per h.p. output.
3) *Reduce tool wear.* Non-friction, roller-type clutch permits longer periods of maintenance-free operation; has unequaled torque holding ability.

Call your Cleco representative for a demonstration-tryout or write for free descriptive literature.

DIVISION OF REED ROLLER BIT COMPANY
P. O. Box 2119 • Houston 1, Texas
IN CANADA: Cleco Pneumatic Tool Company of Canada, Ltd., 927 Millwood Road, Leaside (Toronto), Ontario.

CLECO AIR TOOLS

▲ For more details circle NED-486 E9 on enclosed inquiry slip ▲

NEW VEEDER-ROOT "VISICOUNTER"

Gives greater figure-visibility with dome-shaped window. Better suited for panel-mounting. This rugged, heavy duty counter comes in both ratchet and geared types, non-overthrow wheels. 1-piece case.

Everyone can Count on

VEEDER-ROOT INC.
HARTFORD 2, CONNECTICUT
Hartford, Conn. • Greenville, S. C. • Altoona, Pa. • Chicago
New York • Los Angeles • San Francisco • Montreal
Offices and Agents in Principal Cities

▲ For more details circle NED-487 E9 on enclosed inquiry slip ▲

NEW

Gast Booklet ready to give you

"APPLICATION IDEAS"

on uses of air motors, compressors, vacuum pumps

Looking for new ways to improve methods—save time—or cut costs? This booklet may be valuable to you! With line drawings, it shows dozens of the basic principles of "putting air to work".

With photographs of our customers' products—from air mixers to data plotters—it illustrates each principle. . .and shows how Gast rotary Air Motors, Compressors and Vacuum Pumps provide advantages as original equipment or in plant use.

Design Engineer or Plant Master Mechanic, you'll find this booklet of interest. . .and it may "spark" an important idea you can use!

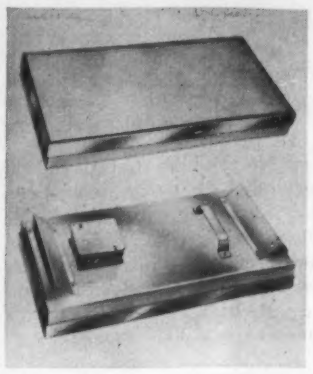
WRITE TODAY FOR NEW "APPLICATION IDEAS" BOOKLET!

Gast Manufacturing Corp.
P.O. Box 117 -R
Benton Harbor, Mich.

GAST ROTARY
• AIR MOTORS TO 7 H.P.
• COMPRESSORS TO 30 P.S.I.
• VACUUM PUMPS TO 28 IN.
"Air may be your answer!"

▲ For more details circle NED-488 E9 on enclosed inquiry slip ▲

INFRARED ELEMENTS for industrial processing uses

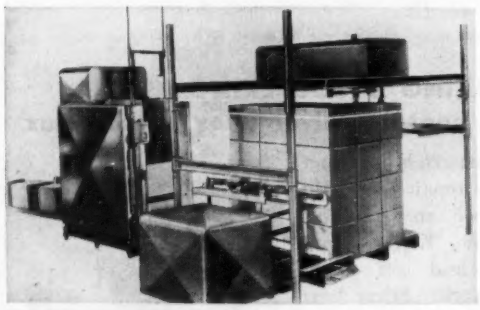


Unidirectional slab face quartz infrared elements radiate long wave rays directly on the work, minimizing dissipation of energy from the sides. The entire slab surface emits infrared rays uniformly, and the insulation backing provides high heat return. Maintenance-free, long life elements can be placed close to the work surface for high efficiency. Infrared may be applied to materials of varying colors since it is not color selective. Modular elements can be used over conveyor belts, or as ceiling, floor, and sidewalls of batch or continuous ovens. Applications include curing, drying, preheating, baking, and fusing. Various sizes with 600, 1000, 1250, 1500, and 2500-w ratings are available for standard voltages. Made by **Ampere Industries,** Industrial Process Div., 60 Boston St., Newark 3, N. J.

▲ For more details circle NED-489 E9 on enclosed inquiry slip ▲

AUTOMATIC PALLET-LOADER stacks various size containers in load-stable pattern to any height

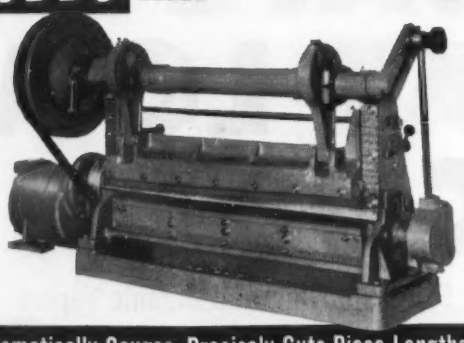
Adjustable to handle various sizes of cases, cartons, kegs, and other containers, this L-P Automatic Pallet-Loader consists of a stacker, pusher, taper, and conveyor to connect it to existing production lines. Mounted directly on the floor, this machine stacks containers in a stable load pattern at rates of 15 per minute, assembles stacks on pallet, and applies a strip of pressure-sensitive tape around the top layer of packages to further assure load stability. It can be synchronized to production lines.



Operating automatically, machine reportedly pays for itself in a short time. Loaded pallets are handled by a power fork truck. Optional equipment includes a pallet dispenser and an accumulator conveyor for loaded pallets. Made by **Lathrop-Paulson Co.,** 2459 W. 48th St., Chicago 32, Ill.

▲ For more details circle NED-490 E9 on enclosed inquiry slip ▲

HOBBS New 24" Jaco Autogil



Automatically Gauges, Precisely Cuts Piece Lengths

This new 24" wide Autogil automatically measures, accurately cuts piece lengths from roll or strip — felt, insulation, rubber, textiles, plastic film, mica, paper, wire, thin sheet metal. Heavy duty guillotine for soft materials to 3/16" thick, metals to .018". Type "S" cuts pieces 0" to 8" long; Type "L", to 96" long.

Automatic electric counter and stop mechanism available. Price, without motor and accessories — $2200.

Send samples for cutting to find how effectively Autogil can handle your specific application. Request literature.

HOBBS
WINDERS • SLITTERS
SHEARS (Hand & Power)
AUTOMATIC CUTTERS • DIE PRESSES

Manufacturing Company
41E Salisbury St., Worcester 5, Mass.

Branch Offices and Representatives in Irvington, N. J. Chicago, Cleveland, Louisville, Greenville, S. C., Toronto and other Principal Cities

506-B

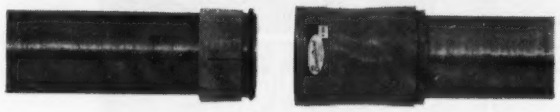
▲ For more details circle NED-491 E9 on enclosed inquiry slip ▲

Facts on flex and expansion joints . . .

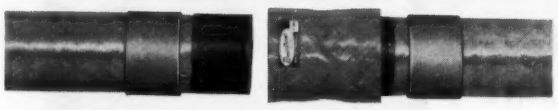
that can save you maintenance and expenses are detailed in this bulletin. Send for your copy. Write Dept. 250, RESISTOFLEX CORPORATION, Roseland, N. J.

▲ For more details circle NED-492 E9 on enclosed inquiry slip ▲

BONDSTRAND®



fiber-glass reinforced epoxy pipe by Amercoat®



. . . strong as steel pipe, only one-eighth the weight. Tensile: hoop 80,000 psi, longitudinal 40,000. Highly corrosion resistant. Won't scale, cold flow or deform. 20-foot lengths easy to cut and join; threaded or locking wedge fittings.

MOST COMMON DIAMETERS AVAILABLE

Write for BONDSTRAND technical brochure

Amercoat CORPORATION
Dept. QE • 4809 Firestone Boulevard
South Gate, California

114A

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The new ALLISPEDE*!

The mechanical adjustable speed drive that can be adapted in the field!

A wrench and screwdriver are all the tools you need to change the ALLISPEDE DRIVE from an upright to a horizontal drive—for floor, wall, or ceiling mounting. Feet, end brackets, control hand wheel, conduit box, and output shaft can be positioned to fit space requirements.

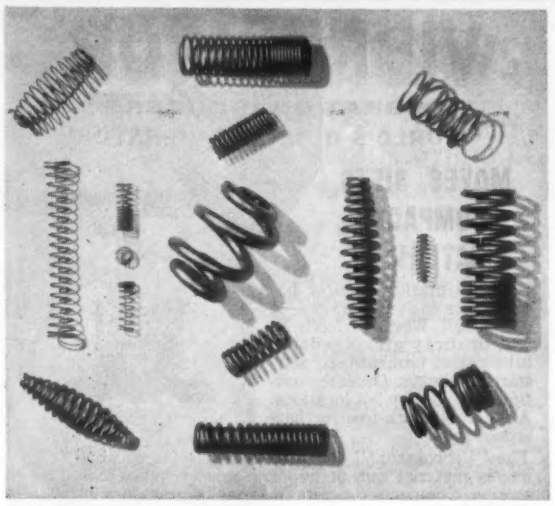
Ideal for equipment and operations requiring economical but precise adjustable-speed control. It's virtually maintenance-free. Features full four-bearing belt support for longer belt life; oversize cartridge bearings; internally-lubricated splined shaft; corrosion-resistant enclosure. Sizes 1 HP and up; speed variations up to 8:1. Write for Bulletin 3300, The Louis Allis Co., 436 East Stewart St., Milwaukee 1, Wisconsin.

A90-119

*ALLISPEDE is a trademark of The Louis Allis Co.

LOUIS ALLIS

▲ For more details circle NED-494 E9 on enclosed inquiry slip ▲



Compression Springs

Before your designs are frozen, check with our engineers for possible savings. Proper material selection is important. Unnecessarily close tolerances add to cost. Send for pamphlet "Spring Design and Selection—in brief."

Associated Spring Corporation
General Offices
Bristol, Connecticut

8919

▲ For more details circle NED-495 E9 on enclosed inquiry slip ▲

3 NEW THERMOMETERS WORTH LOOKING INTO

3"-DIAL Straight Form Model
Full-view dial is parallel to stem. Stem can be located at any specified position around entire circumference of head. (Model No. 1740)

4" DISHED-DIAL TYPE
Readability of 5-inch thermometer at cost of 3-inch. Dished type dial reduces parallax to a minimum. Standard RMC accuracy and dependability. (Model No. 1950)

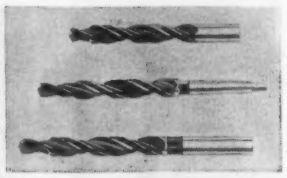
4"-DIAL Maximum Set-Hand
Registers maximum or minimum temperatures. Set hand is magnetically carried—cannot affect movement or accuracy of indicating pointer. (Model No. 1925)

Write FOR NEW 1959 RMC CATALOG

RMC ROCHESTER MFG. CO.
114 Rockwood St., Rochester 10, N.Y.
INDUSTRIAL THERMOMETERS

▲ For more details circle NED-496 E9 on enclosed inquiry slip ▲

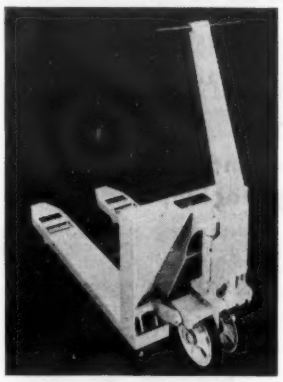
SUBLAND DRILLS in 10-24 to 5/8-18 NC and NF sizes



Subland drills are available in all practical standard sizes for drilling and chamfering operations prior to tapping. Tap sizes range from 10-24 to 5/8-18 NC and NF, in three step lengths and three shank styles. These sizes were selected according to industrywide acceptance of unified standards and hole tolerances. Made by **Mohawk Tools, Inc.**, Montpelier, Ohio.

▲ For more details circle NED-498 E9 on enclosed inquiry slip ▲

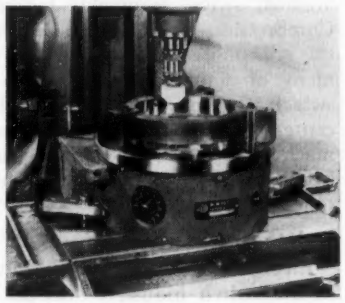
HYDRAULIC PALLET TRUCK 2000, 4000, and 6000-lb capacities



Two and four-way pallets are handled by this hydraulic lift truck which has welded steel frame construction and is made in 2000, 4000, and 6000-lb capacities. Chrome-plated pump and lift rams, Teflon pump and lift cups, and easy-to-reach grease fittings facilitate servicing. Truck also has overload relief valve and stay-put handle. A 4¾-in. lift gives truck a raised height of 8 in., enabling it to double as a skid truck on lower clearance skids. A hinged adapter is available for lifting higher skids. Prices start at $395. Made by **Wright-Hibbard Industrial Truck Co.**, 400 S. Third St., Hamburg, Pa.

▲ For more details circle NED-499 E9 on enclosed inquiry slip ▲

MOTORIZED ROTARY TABLE speed variable from 20 to 60 rpm



Design features incorporated in this Model 710-V motorized rotary table include variable speed control from 20 to 60 rpm, forward and reverse switch, clutch for hand operation, and fully enclosed motor. It fits on most standard surface and jig grinders to convert them for horizontal or vertical inside or outside diameter grinding. It is available in 6, 10⅝, and 15-in. diameters, and with optional magnetic chuck or special clamps. Made by **M & M Tool & Mfg. Co.**, 1124 E. Third St., Dayton 2, Ohio.

▲ For more details circle NED-500 E9 on enclosed inquiry slip ▲

STICHT TACHOMETERS

FOR EVERY NEED . . . EVERY SPEED

CENTRIFUGAL HAND TACHOMETERS

Universal Type UO with 5 ranges in one instrument. With overspeed protection.

CAT. NO. 303, 30-12,000 RPM
CAT. NO. 314, 45-18,000 RPM
CAT. NO. 322, 60-24,000 RPM
CAT. NO. 346, 120-48,000 RPM

Many other models with one, three or five ranges. BULLETIN 750

CHRONOMETRIC HAND TACHOMETERS

"Jaquet" Speed Indicators with built-in chronometer movement. Timing period 3 or 6 seconds. Guaranteed accuracy 1/2 of 1 per cent. Various accessories.

CAT. NO. 2301, 0-10,000 RPM
CAT. NO. 2302, 0-1,000 RPM
CAT. NO. 2304, 0-100 RPM

Suitable double rated speed. BULLETIN 735

CENTRIFUGAL STATIONARY TACHOMETERS

For permanent mounting on machines. Model J. Sizes 3 in., 4 in., 5½ in., 8 in. and 10 in. dial diameters. Flexible cable driven. Many standard ranges reading RPM, FPM, YPM, etc. BULLETINS 794, 795, 796

VIBRATING REED TACHOMETERS

PORTABLE AND STATIONARY

Measure speed by touch. Many different ranges from 900-100,000 RPM.

WRITE FOR BULLETIN 770-A

HERMAN H. STICHT CO., INC.
27 PARK PLACE, NEW YORK 7, N.Y.

▲ For more details circle NED-501 E9 on enclosed inquiry slip ▲

8313-MR

5 WAYS TO CUT SOLID TIRE REPLACEMENT COSTS . . .

and increase lift truck performance

1 GET THE RIGHT TIRE FOR THE JOB
For efficiency and economy, always specify solids according to vehicle, loads and normal operating conditions.

2 AVOID STANDING LOADS AND OVERLOADS
Flat spots cause severe vibration and separation of rubber tire from rim. Overloads result in rapid wear.

3 KEEP FLOORS CLEAR OF DEBRIS
Clean traffic lanes mean savings . . . cuts and bruises from scrap are a major cause of premature tire failure.

4 INSPECT TIRES DAILY
Frequent inspection and prompt removal of imbedded objects costs less than frequent tire replacement.

5 SWITCH TO MONARCH SOLIDS

Made from Compound T-48C, the toughest *natural rubber* stock developed to date, MONARCH industrial solids give superior performance . . . more ton-miles per dollar invested.

THE MONARCH RUBBER COMPANY
260 LINCOLN PARK
HARTVILLE, OHIO

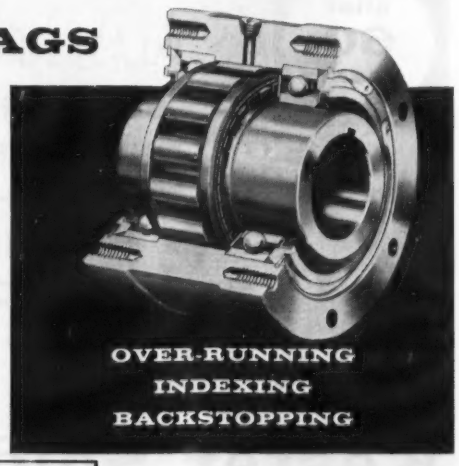
• 7-255 General Motors Bldg., Detroit
• 2353 N. California Ave., Chicago
• Warehouse: Reno, Nevada

▲ For more details circle NED-502 E9 on enclosed inquiry slip ▲

NEW HIGHER PERFORMANCE FORMSPRAG OVER-RUNNING CLUTCHES WITH FORMCHROME* SPRAGS

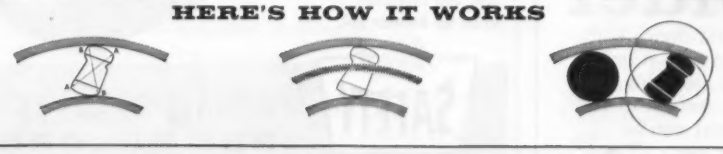
Greatest torque capacity for clutch size and weight, no measurable backlash, extreme precision and long trouble-free life have always been provided by Formsprag clutches. Now! The best over-running clutches provide even higher performance. For, they have Formchrome sprags that are corrosion resistant, and have high hardness and abrasion resistance similar to tungsten carbides. Result, sprag geometry is retained longer and clutches can be used on higher over-running speeds. For further information, send for technical paper "Formchrome Sprags". FORMSPRAG COMPANY, 23595 Hoover Road, Dept. 102, Warren (Detroit), Michigan.

*Formchrome sprags are produced under a patented process. The use of this process in the manufacture of over-running clutches is exclusive with Formsprag.



FORMSPRAG CLUTCHES
World's Largest Exclusive Manufacturers of Over-Running Clutches.

HERE'S HOW IT WORKS



Formsprag clutches have a full complement of sprags between concentric inner and outer races. Dimension AA is greater than BB. Rotation of one race in "driving" direction causes the sprags to wedge, transmitting full torque from one race to the other.

An energizing spring keeps the sprags in light contact with both races . . . there is thus no lost motion. When force is applied to the driving member, the driving torque is instantaneously transmitted between races, slippage or backlash is eliminated

The sprag is, in effect, a "roller" of larger diameter having greater contact surface, and more sprags can be inserted within a given diameter for greater torque capacity. Also, sprags engage at constantly changing contact points to prolong clutch life.

HIGHER PERFORMANCE ON TYPICAL APPLICATION

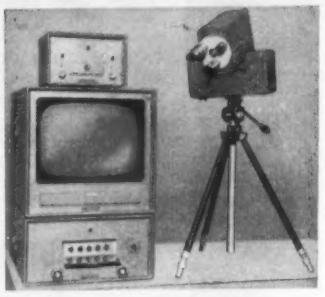
A Formsprag clutch with Formchrome sprags was installed in the reaction member of a torque converter and a competitive clutch in another. After the equivalent of one year of operation, the competitive clutch showed excessive wear. The Formsprag clutch run 50% longer and showed only negligible wear. There is a Formsprag clutch for your every need—send for free catalog.

▲ For more details circle NED-497 E9 on enclosed inquiry slip ▲

How to get EYES in the Back of Your Head

...behind a machine, up on the third floor, in hazardous or hitherto impossible situations, underneath a locomotive, inside a combustion chamber, up on a roof, at a guard gate. These and many other problems can be solved with the versatile new

ITT Closed Circuit TV Systems



Feature a new improved vidicon camera with an entirely electronic light compensator (no moving parts), monitor, control unit, special housings. Cost is surprisingly low. Systems tailored to requirements. Bulletins and other data on request.

Industrial Products Division
INTERNATIONAL TELEPHONE AND TELEGRAPH CORP.
15191 Bledsoe Street, San Fernando, California — EMpire 7-6161

▲ For more details circle NED-503 E9 on enclosed inquiry slip ▲

NOW! a drill that puts the PUSH where it belongs...

Model B
IN-LINE HOLE SHOOTER

★ NO TILT
★ NO WOBBLE
★ NO WRIST FATIGUE

truer holes • fewer broken bits

No other drill like it! MILWAUKEE *In-Line* Hole Shooters fit your hand naturally, putting your palm directly in line with the bit... giving you the grip and push you need for *easier*, accurate, high speed production drilling.

PLUS...

- ✓ Packs 25% more working power
- ✓ Costs much less... lasts much longer
- ✓ Split-body design for easy motor access
- ✓ Pinch-proof trigger switch
- ✓ Cyclonic fan cooling
- ✓ Self-lubricating ball and roller bearings
- ✓ Only 9½" long... weighs just 3½ lbs.
- ✓ Six heavy-duty professional models to choose from... drilling speeds from 650 to 5000 rpm. ...1/4", 5/16" and 3/8" capacities.

Find It Fast Look In The Yellow Pages Under "Tools-Electric"

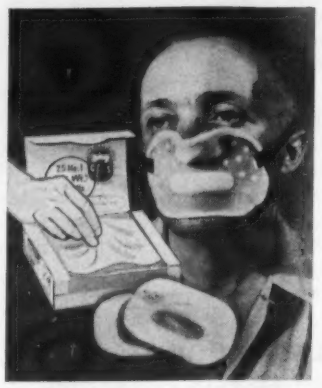
See your MILWAUKEE distributor today or write

Milwaukee Electric Tool Corp.
5320 West State Street, Milwaukee 8, Wisconsin

Find Us Fast In The Yellow Pages

▲ For more details circle NED-504 E9 on enclosed inquiry slip ▲

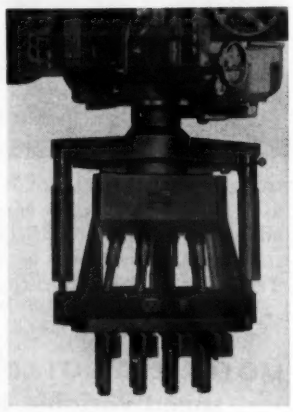
FILTERING MASK protects against dust and spray



Refills for Filtairette protective mask are packaged in a one-at-a-time dispenser. The replaceable cotton filters, which cost only 2 cents each, effectively remove nontoxic dusts and sprays from the air. The mask weighs ½ oz and can be worn with glasses or goggles. It is pliable to fit the contour of any shape of face. Mask sells for $3.60 per dozen, and refills are $2 per 100 or $2.50 per 100 for a heavyweight type. Available from **General Scientific Equipment Co.**, 7516 Limekiln Pike, Philadelphia 50, Pa.

▲ For more details circle NED-505 E9 on enclosed inquiry slip ▲

DRILL ATTACHMENT adapts multiple-spindle heads to radial drilling machines



Multiple-hole drilling of cumbersome parts can be speeded up with this attachment for adapting large multiple spindle drilling and tapping heads to radial drilling machines. Unit combines an air actuated counterbalance for head and a 360-degree ball bearing swivel attachment.

Ball bearing swivel allows spindles to be aligned properly to any hole pattern. When head is aligned, swivel is quickly locked by means of lever. Compression-spring design in the universal joints of the adjustable heads allows fast replacement or movement of joints by hand. Air counterbalance and swivel attachment is also available for adapting fixed center drilling and tapping heads to radial drilling machines. Made by **United States Drill Head Co.**, 616 Burns St., Cincinnati 4, Ohio.

▲ For more details circle NED-506 E9 on enclosed inquiry slip ▲

Switches & Actuators

Electrosnap Corp., Switch Div.—Terminology used in the switch industry, plus photos, specifications, dimensional drawings, and modification information on various switches and their actuators are found in 52-page Catalog ES-59. Sub-subminiature "peanut," subminiature snap action, single and multi-pole, lighted pushbutton panel, environment-free, sealed, and die-cast enclosure switches are among types covered.

▲ For more details circle NED-507 E9 on enclosed inquiry slip ▲

after 60 years

"SMART" SOLDERING STARTS WITH THIS SPOOL!

Kester Solder

KESTER FLUX-CORE SOLDER is always first choice with those who know solder. They like the way it helps keep production costs in line, speeds assembly, assures dependable performance. Yes, American industry is sold on Kester . . . how about you?

WRITE today for free Kester 78-page technical manual, "SOLDER . . . Its Fundamentals and Usage."

KESTER SOLDER COMPANY
4249 Wrightwood Avenue • Chicago 39, Illinois
Newark 5, New Jersey • Brantford Canada

Over 60 Years' Experience in Solder and Flux Manufacturing

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VIBROLATOR®

VIBRATION INDUCERS
"WORLD'S QUIETEST VIBRATOR"

MOVES, SIFTS, COMPACTS MATERIALS

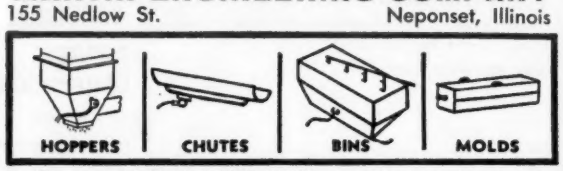
This vibration inducer has only one moving part — a rolling ball. Works perfectly on wet or dirty air. Needs no lubricator. Guaranteed self-starting always. Operates continuously in very hot locations. Absolutely spark-free for hazardous jobs.

The "Vibrolator*" vibrator moves material out of hoppers, down chutes and through screens. Compacts concrete in forms or granulars in boxes or drums.

"Vibrolator" vibrators are available in a wide range of sizes "pocket watch" to the most powerful hand-portable unit built. *Call your distributor or write for free catalog.*

*"Vibrolator" is Martin Engineering's registered trade mark for its vibration inducers and vibration accessories.

MARTIN ENGINEERING COMPANY
155 Nedlow St. Neponset, Illinois



▲ For more details circle NED-509 E9 on enclosed inquiry slip ▲

Exciting new best seller! Yours FREE!

The Wilton Catalog Cover and Sample Spread Tells the Story

Wilton's new "book" is more than a catalog! It's actually a production know-how manual that shows you in-plant photos and operating case histories of how Wilton clamping tools (both manual and powered) have been used by the best brains in the business to save production time and money. Of course we show our line, and that too is unique—**Wilton has the most complete line of clamping tools in the world.** Write for your copy now; it's an education that will pay dividends in your plant. No obligation, of course.

WILTON

WILTON TOOL MFG. CO., INC. / SCHILLER PARK, ILL.
NED-59

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Best Grip for Safe Marking

Knurled, wedge-shaped grip permits clear, deep impressions with the ultimate in safety. For maximum strength, non-spalling and non-mushrooming features, this is machined from a solid bar of Mecco Safety Steel. Made in a wide variety of sizes and capacities.
Write for Bulletin 514.

Mecco SAFETY Wedge-Grip TYPE HOLDER
A Product of the Marking Device Industry

M. E. CUNNINGHAM CO.
1055 CHATEAU STREET, PITTSBURGH 33, PA.

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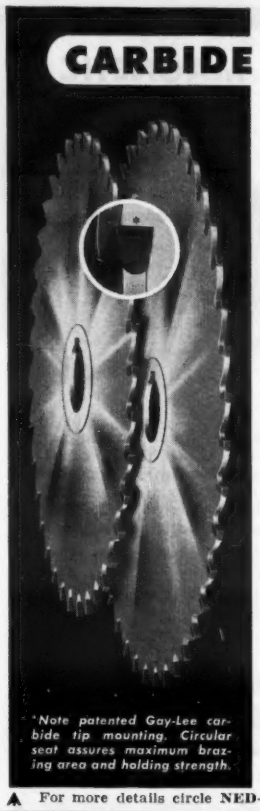
CARBIDE "THINSAWS"



*Note patented Gay-Lee carbide tip mounting. Circular seat assures maximum brazing area and holding strength.

FOR FAST, PRECISION SAWING, SLOTTING or SLITTING and LONGER SAW LIFE

Gay-Lee Carbide "Thinsaws" maintain positive alignment for full-depth cutting without run-out. "Thinsaw" thickness as low as .030" with tolerance held to .0001". Sizes from 1¼" to 10" O.D.

Patented carbide tip design and circular seat mounting assure maximum brazing area, positive seating and greater holding strength – tips will not break loose.

For fast, precision sawing, slitting or slotting of cast-iron, non-ferrous, plastics, wood, etc., use Gay-Lee Carbide "Thinsaws". Any tooth form available. For application recommendations, send details of your problem.

Patented—Manufactured under license.

GAY-LEE COMPANY
CLAWSON • MICHIGAN
CARBIDE SAW SPECIALISTS

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CUT PRODUCTION COSTS!

Two dependable conveyor systems

New Catalog CD-B

Backed by 33 years of experience in materials handling

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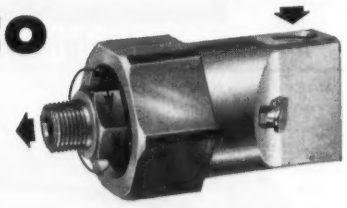
For High Speed Rotating Connections on
SPINDLES • CHUCKS • CLUTCHES.

BARCO

NEW TYPE D REVOLVING JOINT



UP TO 10,000 RPM!

Use Barco's new TYPE D Revolving Joints wherever you need high speed, low torque, leakproof rotary connections for air, hydraulic, or coolant lines on clutches, machine tools and other equipment:

- **LIGHT RUNNING!** Ball bearing design for low torque and minimum wear.
- **LEAKPROOF!** Thanks to Barco's static O-ring seal.
- **PRECISION-BUILT!** All parts machined to close tolerances. Parts interchangeable and easily renewable.
- **COMPACT, DURABLE!** Easy to install where space is limited. Overall length, 3 17/16". Built for rugged service.
- **WIDE SPEED RANGE!** Up to 10,000 RPM. For pressures to 300 psi (air) or 3000 psi (hydraulic). Economical TYPE E available for up to 2,500 RPM. SEND FOR CATALOG SHEET 308.

BARCO MANUFACTURING COMPANY
530F Hough Street • Barrington, Illinois

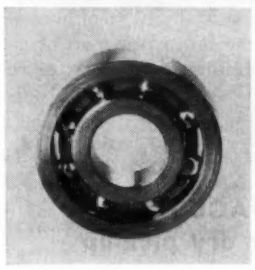
▲ For more details circle **NED-514 E9** on enclosed inquiry slip ▲

WRITING TUBE
ball point types for marking use

Smooth or rough surfaces of metal, wood, plastic, and glass can be lastingly marked with this ball point type 6 x 1-in. writing tube. It is offered in ball point sizes for making 5/64, 1/8, or 3/16-in. wide lines. Fast drying, opaque ink, available in green, yellow, blue, orange, black, red, brown, or white withstands heat and weathering. It will not chip, peel, fade, or rub off. Made by **John P. Nissen, Jr. Co.**, Box 881, Glenside, Pa.

▲ For more details circle **NED-515 E9** on enclosed inquiry slip ▲

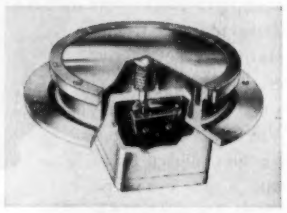
RADIAL BEARINGS
deep groove type for 900° F service



Made to ABEC-5 tolerances, three R Series deep groove radial bearings are suited for applications up to 900° F. High speed tool steel is used for balls, races, and retainers. Machined retainers are of snap - in construction. Stocked sizes are: R-2, 0.1250-in. bore, 0.3750-in. OD; R-3, 0.1875-in. bore, 0.5000-in. OD; R-4, 0.2500-in. bore, 0.6250-in. OD. Made by **Industrial Tectonics, Inc.**, 3686 Jackson Rd., Ann Arbor, Mich.

▲ For more details circle **NED-516 E9** on enclosed inquiry slip ▲

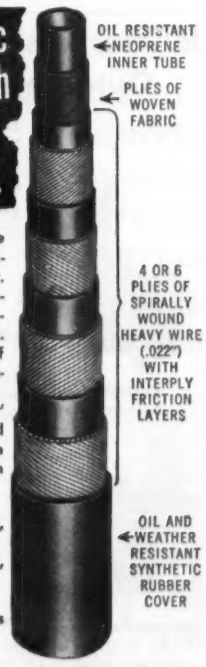
BIN LEVEL INDICATOR
resists chemical action, corrosion



Both standard and explosionproof models with the UL label are offered in the Auto-Bin-Dicator, an automatic bin level indicator. Its supersensitive response mechanism is effective with light or heavy materials. Cast aluminum body and a stainless steel diaphragm suit it for use where corrosion and chemical action are factors. It can be affixed to thick or thin-walled bin; suspended within the bin, hopper, or silo at any desired level; or used in chutes and hoppers to prevent choke-ups, overfeeding, and damage to equipment. Pressure of material against the diaphragm actuates a switch which operates light, bells, or horns; automatically starts or stops the flow into or out of a bin; or starts or stops filling machinery. Made by **Bin-Dicator Co.**, 13946-100 Kercheval Ave., Detroit 15, Mich.

▲ For more details circle **NED-517 E9** on enclosed inquiry slip ▲

NOW! Higher Hydraulic Pressures Possible with NEW ANCHOR "SUPER-SPIRAL" HOSE



The lack of dependable, extra high pressure hose has hampered designers wishing to increase pressures used in hydraulic equipment.

Anchor's new "SUPER-SPIRAL" Hose removes these limitations and offers the hydraulic engineer a new maximum pressure range. It is finding wide usage in the replacement of old style braid hose to obtain greatly extended service life.

It is available in sizes from 3/16" I.D. to 1½" I.D. with either 4 plies or 6 plies of all spirally wound heavy wire reinforcement, with no crossed wires to fatigue, break or weaken hose.

- **Maximum Working Pressures:**
  6 Ply—12,500 psi, 3/16" I.D. to 3,000 psi, 1½" I.D.
  4 Ply—10,000 psi, 3/16" I.D. to 2,500 psi, 1½" I.D.
- **Heavy .022" dia. wire reinforcement.**
- **All spirally wound—no braid, with its crossed wires that lead to wire fatigue.**

Andy Anchor says: A special data sheet with all specifications of Anchor's new SUPER-SPIRAL HOSE will be sent on request.

ANCHOR COUPLING CO. INC.
391 No. Fourth St., Libertyville, Ill.
Branch Plants: Dallas, Texas—Plymouth, Michigan

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SLASH GLOVE COSTS

GIVE EXTRA PROTECTION with the JOMAC COST-REDUCTION PLAN

Customer: major metalworking plant. Operation: fabricating large sheet metal parts. This is just one of scores of case histories on how the Jomac Cost-Reduction Plan has made big savings. Proof that this plan can work for you is yours for the asking.

FREE! Write for a copy of the Jomac Glove Catalog. Dept. G, Philadelphia 38, Pa.

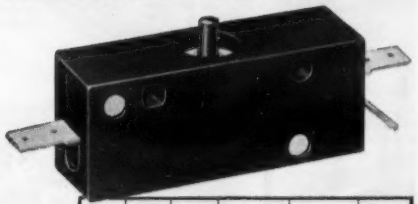
JOMAC INDUSTRIAL GLOVES

Plants in Philadelphia, Pa., and Warsaw, Ind.
In Canada: Safety Supply Company, Toronto
In Europe: North-Jomac Ltd., London, W1

▲ For more details circle **NED-519 E9** on enclosed inquiry slip ▲

SNAPAC SWITCHES

TYPE 750



For dependability at a fair price, specify Type 750 Snapac switches.

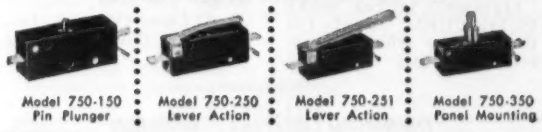
FEATURES

- Instantaneous, positive make and break action
- High contact pressure
- Nonsensitive to vibration and shock
- Stable under momentary high overload

TYPE	Pre-Travel	Total Travel	Movement Differential	Operating Pressure	Catalog Number
Pin Plunger	1/32" to 1/16"	3/32" to 1/8"	.010 to .035	13 oz. max. 6 oz. min.	750-150
Lever Action	5/32" to 7/16"	3/8" to 7/16"	.030 to .070	9 oz. max. 4 oz. min.	750-250
	1/4" to 7/16"	1 19/32" to 1 5/8"	.078 to .125	6.5 oz. max. 4 oz. min.	750-251
Panel Mount.	1/32" to 1/16"	1/4" to 1/2"	.010 to .035	13 oz. max. 6 oz. min.	750-350

RATING: 15 amp 125v A.C., 10 amp 250v A.C., 1/2 hp 125/250v A.C.

FOUR MODELS COVER THE BROADEST RANGE OF SNAP ACTION SWITCH APPLICATIONS



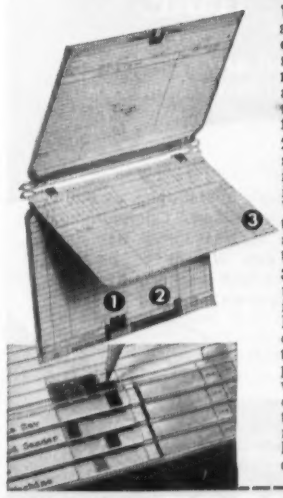
Model 750-150 Pin Plunger | Model 750-250 Lever Action | Model 750-251 Lever Action | Model 750-350 Panel Mounting

CONTROLS COMPANY OF AMERICA
9577 Soreng Ave., Schiller Park, Illinois
Creative Controls for Industry

▲ For more details circle **NED-520 E9** on enclosed inquiry slip ▲

ACME VISIBLE

Preventive Maintenance Record Systems CUT "DOWN" TIME



1. ONCE A WEEK Lock-in chain signals, with 4 windows, each a different color, show the week inspection is to be made. With both month and week signalled, you avoid missing semi-monthly inspections or those requiring more frequent attention.

2. ONCE A MONTH Progressive signals, always visible, show the inspection schedule. Colors designate type of work to be done. When work is completed and entered on record card, signal is advanced to month next inspection is due.

3. Acme hinged pockets and the two cards on one hanger feature, is ideal for follow-up control. Each machine and motor is listed on an individual card placed in the back of pocket – in facing pocket a "History of Repairs," with signals *always visible*, indicate next inspection or lubrication date—"Spare Part in Stock" record card is hung on the same hanger as "History of Repairs" card.

ACME VISIBLE RECORDS, INC., Crozet, Virginia

☐ Send us more information and literature on Preventive Maintenance. V-559

Company_____ Attention_____
Address_____
City_____ Zone_____ State_____

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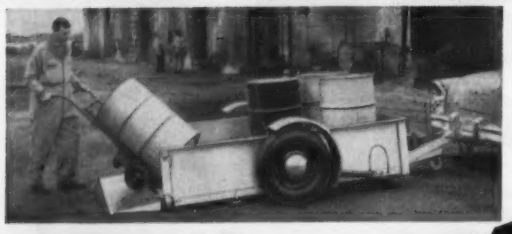
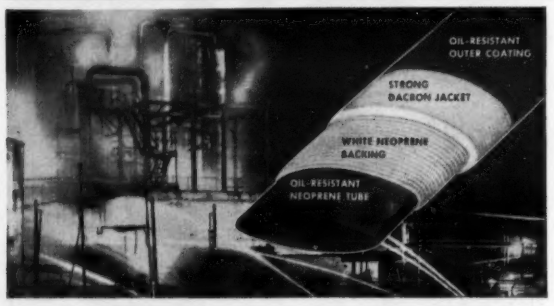
NEW DOWN TO EARTH IDEA

Trailevation! Sensational new cost-cutter for industry! Developed by Trailevator, the amazing elevating trailer that lowers to ground level...elevates load to hauling position...hauls the load.

Learn how Trailevator can save you loading time, hauling time, man-power and money! Picture Bulletin T-58 tells the story.
WRITE TODAY! *Trailevator Division, Magline Inc., Pinconning, Mich.*



Trailevator
TAKES THE LIFT OUT OF LOADING
Dealerships available in some territories. Write for details.
For more details circle **NED-523 E9** on enclosed inquiry slip



Quaker Thermoid PETROCHEM FIRE HOSE
for long wear under tough chemical attack

Lightweight and flexible, "QUAKER" PETROCHEM stands up for *years* where other hose deteriorates in months. Neoprene tube and neoprene-impregnated "Dacron" jacket make PETROCHEM ideal for fire-fighting where chemical and oil exposure is greatest. Users report savings in replacement as high as 90% by switching to PETROCHEM. See your Thermoid distributor, or write *Thermoid Division, H. K. Porter Company, Inc., Tacony & Comly Sts., Philadelphia 24, Pa.*

THERMOID PORTER DIVISION
H.K. PORTER COMPANY, INC.
Divisions: Connors Steel, Delta-Star Electric, Disston, Forge and Fittings, Leschen Wire Rope, Mouldings, National Electric, Refractories, Riverside-Alloy Metal, Thermoid, Vulcan-Kidd Steel, H. K. Porter Company (Canada) Ltd.
For more details circle **NED-524 E9** on enclosed inquiry slip

Fasten and Seal at ONE time

WITH SHAKEPROOF SEALING FASTENERS

Eliminate separate assembly operations . . . end separate handling, "messy gobbing." Compounds stable from −20° to 230° F. Shakeproof Sealing Fasteners include Lock Washers, Sems (pre-assembled screw and lock washer), KEPS® (pre-assembled nut and lock washer) and Thread-Cutting Screws.

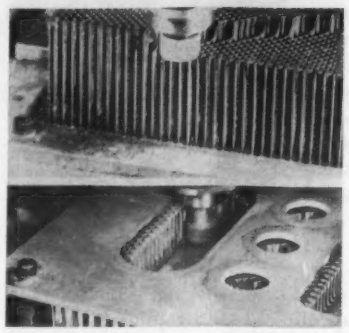
Write for samples today!

SEAL OUT WATER, OIL, GASOLINE, AIR!

SHAKEPROOF
"Fastening Headquarters"®
DIVISION OF ILLINOIS TOOL WORKS
St. Charles Road, Elgin, Illinois
itw

For more details circle **NED-525 E9** on enclosed inquiry slip

HONEYCOMB MACHINING METHOD
electrolytic process handles complex contours, configurations



Almost any shape, profile, or contour that can be machined in solid metal can now be duplicated in steel honeycomb materials to close tolerances with this electrolytic process. Involute curves, diagonals, and even spiral cuts are machined quickly using a modified tracer method in conjunction with the control mechanism. Honeycomb edge remains clean and free of burrs to simplify skin brazing.

No heat is generated to cause metallurgical alterations, and there are no heat checks or grinding cracks. Upper photo shows diagonal cut on stainless steel honeycomb. Center photo shows same setup using an overlay template for cavity machining. Request more information from **Ekstrom, Carlson & Co.**, 1400 Railroad Ave., Rockford, Ill.

For more details circle **NED-526 E9** on enclosed inquiry slip

DRUM CONVERSION VACUUM
cleaner for wet or dry pick-up

Purchaser of the Ace drum conversion vacuum cleaner may buy just the components required. Four models are offered, each with a varying number of components ranging from the complete set (power unit dust bag, support rod, cover, dolly, and 55-gal steel drum) down to the standard set (cover, dust bag, and support rod). Vacuum is suited for wet or dry pick-up, and can be used for floors, machine tool sump cleaning, and general maintenance. Motor unit is removable for use as a portable blower or vacuum cleaner. When drum is filled, it is replaced with an empty drum on a dolly, then cover and power unit are attached. Many optional cleaning tools are available. Made by **Ace-Sycamore, Inc.**, 442 DeKalb Ave., Sycamore, Ill.

For more details circle **NED-527 E9** on enclosed inquiry slip

Is Your Research Hampered by Outdated Vacuum Equipment?

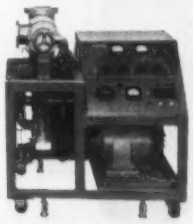
Developments in KINNEY High Vacuum Equipment are extensive and dramatic. They must be to keep abreast of today's accelerated research. For your laboratory and pilot plant, look to —

KINNEY High Vacuum Pump

Kinney®
HIGH VACUUM

KINNEY High Vacuum Pumps provide you with the most comprehensive selection in the world . . . Single-Stage and Two-Stage Mechanical Pumps and the famous KINNEY Two and Four-Stage Mechanical Booster Pumps.

KINNEY Packaged Pumping Systems, consisting of Cold Trap, high speed Fractionating Diffusion Pump, two-stage gas-ballasted mechanical Vacuum Pump and complete instrumentation forms an attractive highly versatile laboratory tool. Unique manifold valve arrangement, whereby the intake fitting may be rotated through 90°, quickly converts unit into a highly efficient Vacuum Evaporator unit.



PW-400 Packaged Pumping System

Write for Bulletins

KINNEY MFG. DIVISION
THE NEW YORK AIR BRAKE COMPANY
3612E WASHINGTON STREET • BOSTON 30 • MASS.

For more details circle **NED-528 E9** on enclosed inquiry slip

DINGS MAGNETIC SHEET FLOATERS

—Save Handling Time
—Cut Production Costs

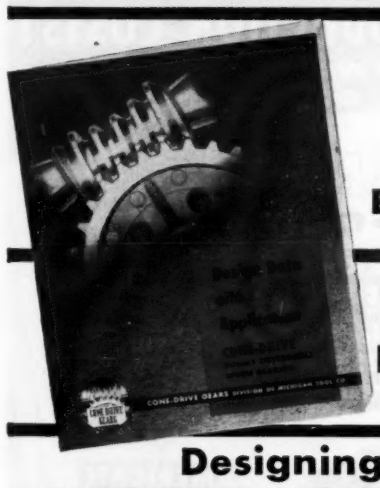
Here's how to get faster, easier, safer handling of stacked steel sheets on hand feeding operations. Automatically separates top sheets in pile from those below...eliminates fumbling, protects dies, prevents scratching of finished surfaces. Helpers formerly needed to pry sheets apart now freed for other work.

DINGS MAGNETIC SHEET FLOATERS come completely enclosed in stainless steel to prevent damage to Alnico blocks or loss of magnetic efficiency through attraction of stray iron.

For more information write:

Dings
DINGS MAGNETIC SEPARATOR CO.
4758 W. Electric Ave.
Milwaukee 46, Wis.

For more details circle **NED-529 E9** on enclosed inquiry slip



FREE to Design Engineers

New Bulletin 200

Designing WORM GEARS

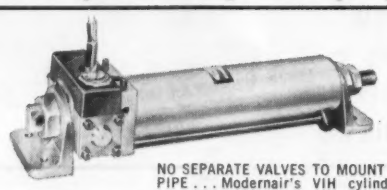
24 pages of technical data and formulae with step-by-step instructions on the design and application of Cone-Drive double-enveloping worm gearing.

CONE-DRIVE GEARS
DIVISION MICHIGAN TOOL COMPANY
7171 E. McNichols Rd. • Detroit 12, Michigan

For more details circle **NED-530 E9** on enclosed inquiry slip

Modernair **VIH** (VALVE-IN-HEAD) **CYLINDERS**

Save Space, Weight & Piping



NO SEPARATE VALVES TO MOUNT OR PIPE . . . Modernair's VIH cylinders have directional and exhaust speed control valves built in!

FEATURES:
*COMPACT CYLINDER-VALVE "PACKAGE" includes built-in directional control, exhaust speed control valves.
*SOLENOID, BUTTON BLEEDER or PILOT PRESSURE valve operation.
*INTERCHANGEABLE MOUNTINGS.

BRIEF SPECIFICATIONS:
DIAMETERS: 1½", 2", 3" ROD SIZES: ½", ⅝", ¾"
MIN. OPERATING PRESSURE: 20 p.s.i.
MAX. OPERATING PRESSURE: 150 p.s.i. (solenoid)
200 p.s.i. (bleeder or pilot pres.)

38

Write for catalog, prices today—or phone your local MODERNAIR distributor (listed on your phone book Yellow Pages).

Modernair Trademark **CORPORATION**
Dept. F5, 400 PREDA STREET, SAN LEANDRO, CALIF.
5007 BROOKPARK RD., CLEVELAND 34, OHIO

For more details circle **NED-531 E9** on enclosed inquiry slip

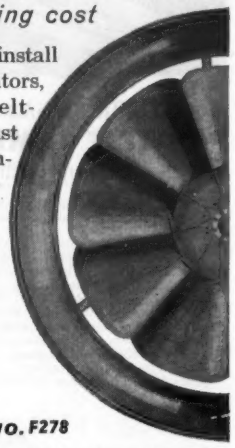
OSCILLATORS
AIR CIRCULATORS
EXHAUST

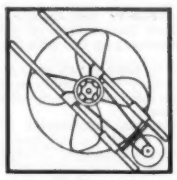
FANS

BY EMERSON-ELECTRIC

low initial cost
low operating cost

You save money when you install quiet, efficient fans — oscillators, air circulators and both belt-drive and direct-drive exhaust fans—backed by the Emerson-Electric famous factory-to-user guarantee.





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EMERSON ELECTRIC of St. Louis • *Since 1890*
8100 FLORISSANT AVE. • ST. LOUIS 21, MO.

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there's an easier way to IDENTIFY your product

. . . WITH A
Dickey·Grabler NAME PLATE

New color brilliance . . . razor-sharp clarity . . . and easy application (in just seconds) . . . are but three of the many BIG advantages you get with a Dickey-Grabler nameplate. For in addition, you have a full-range selection of sizes and shapes . . . in any metal . . . any quantity . . . to give you the exact nameplate combination you need for maximum practicability and sales appeal. You'll be amazed at the prices too . . . the direct result of over 75 years experience in cutting cost corners for customers the world over. Let us send you a copy of our latest catalog. Write today.

Other Dickey-Grabler products include dials of all kinds, instruction plates, checks, tags, labels, badges, embossing dies, etc. . . . plus a full selection of marking devices. Complete details upon request.

THE
DICKEY·GRABLER CO.
10302 MADISON AVENUE - CLEVELAND 2, OHIO
"For over 75 years • marks that never wear out"

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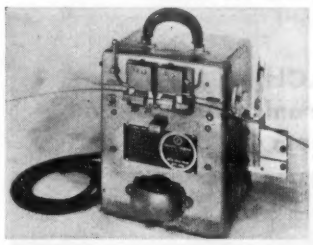
INDUSTRIAL WHEELS can be used continuously at 250° F

Made of heavy macerated canvas and impregnated with phenolic resin, Everledge Black wheels can be used in continuous industrial service at temperatures up to 250° F. Intermittent-duty extremes are −65° F and up to 300° F. Wheels are light in weight, shock-resistant, and will resist water, grease, oils and animal fats, and most industrial chemicals. Bores range from ½ to 2 7/16 in. and sizes up to 12 x 3½ in. Made by **Everledge Mfg., Inc.**, Box 228, Jeannette, Pa.

▲ For more details circle **NED-534 E9** on enclosed inquiry slip ▲

BANDSAW WELDER joins up to ¾-in. blade widths



Featuring a factory-set flash adjustment, this bandsaw blade welder has improved jaw clamping adjustment, tension adjustments, and blade width indicator. Device can be used to cut and weld any length of bandsaw blade up to ¾ in. wide. Shear for cutting and grinder for removing flash are integral with this unit which can be mounted on machine. Price is $208. Made by **Rockwell Mfg. Co.**, Power Tool Div., 454 N. Lexington Ave., Pittsburgh 8, Pa.

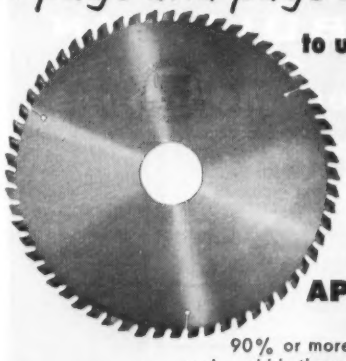
▲ For more details circle **NED-535 E9** on enclosed inquiry slip ▲

TEMPERATURE INDICATOR-CONTROL covers range of 100 to 400° F

Magnetic amplifier and transistor circuitry employed in this Limitemp indicating temperature controller assures dependable accuracy without need for service. It monitors and controls in range of 100 to 400° F through standard copper temperature detectors and operates on 115-v ac. Meter shows temperature, and signal lamp indicates when controller is operating to restore temperature to desired level. Typical applications include monitoring of bearings, motor windings, and materials in process. Output is 5 w at 24-v dc for operating control equipment. Price is under $150. Made by **Westinghouse Electric Corp.**, Director Systems Dept., 356 Collins Ave., Pittsburgh 6, Pa.

▲ For more details circle **NED-536 E9** on enclosed inquiry slip ▲

It pays and pays and pays...



to use L&S SAWS & KNIVES CUSTOM MATCHED TO YOUR PARTICULAR APPLICATIONS!

A large mid-west manufacturer of decorative laminates reports 400% longer life between grinds with L&S customized carbide-tipped saws.

SOLD ON TERMS THAT GUARANTEE COMPLETE SATISFACTION

90% or more of our carbide knives and carbide-tipped saws are custom built from materials of selected hardness to specific production requirements. As a result, they invariably far out-perform other saws and knives in the carbide category both in cutting efficiency and reduction of downtime and number of grindings required. Savings over conventional steel knives and saws are almost unbelievably large. By all means write for our catalog before buying any carbide tipped saws or solid carbide knives for planers, shapers, molders, or any other application.

LEMMON and SNOAP
2618 THORNWOOD ST., S.W. • GRAND RAPIDS 9, MICH.
We Repair All Types and Makes of Carbide-Tipped Saws . . . 24-Hour Service

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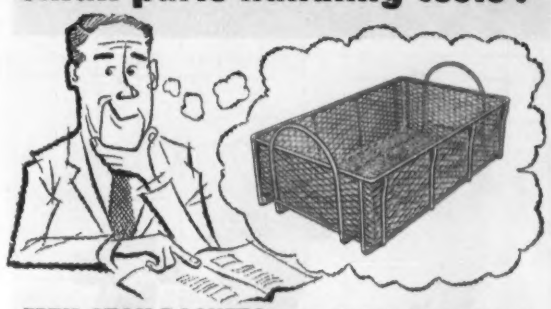
Looking For A Way to cut small parts handling costs?



***EEZY-STAK BASKETS* STOP EXTRA HANDLING, SPEED PARTS PROCESSING . . . REDUCE COSTS!**

Here's how one manufacturer solved costly, time-consuming, small parts handling. Using EEZY-STAK standard wire baskets, a complete series of parts transfer operations was eliminated. Result: Five production processes now performed in one basket—degreasing, drying, pickling, rinsing, cyaniding—plus storage, *without parts removal!*

EEZY-STAK baskets have the exclusive, patented *interlock* handle, for easy stacking and compact storage. Open mesh construction Full visibility . . . quick drainage . . . clean! From initial production to final assembly, EEZY-STAK baskets put small parts handling on an economical, low-cost basis. Cut Costs! Investigate the advantages of EEZY-STAK baskets for *your* plant!

Write today for Bulletin No. B-54 to Wire & Iron Products Inc., 1724 Sixteenth Street, Detroit 16, Michigan.

WIPCO

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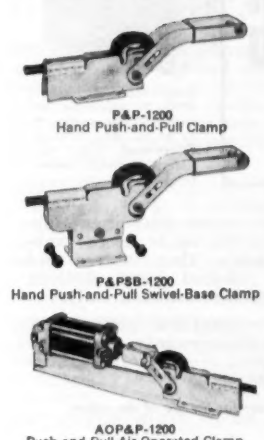
INTRODUCING... 3 NEW KNU-VISE CLAMPS



P&P-1200
Hand Push-and-Pull Clamp

P&PSB-1200
Hand Push-and-Pull Swivel-Base Clamp

AOP&P-1200
Push-and-Pull Air-Operated Clamp

WRITE TODAY FOR COMPLETE INFORMATION

Push the handle! Pull the handle! It makes no difference—the new Knu-Vise clamps by Lapeer give you uniform clamping of parts. That's real performance! Look at these features—

90° handle motion produces lock of plunger for push or pull without resetting of handle. Handle is reversible. Plunger guided by two widely separated, hardened steel bushings for accuracy in motion and minimum wear. Built-in deflection provides uniformly tight clamping of parts with normal variation in thickness. Swivel base model provides 90° total change in direction of plunger motion. The air (or oil) operated model, AOP&P-1200, produces approximately 4½ times the clamping force with 85 p.s.i. than the cylinder would alone. Failure of air (or oil) pressure does not permit reverse motion of plunger, thus not affecting clamping force.

All parts easily replaceable.

Manufacturers of over 150 models of manually and air-operated clamps and pliers

KNU-VISE PRODUCTS — **LAPEER MANUFACTURING CO.**
3062 DAVISON ROAD
LAPEER, MICHIGAN
WESTERN DIV.: PECK and LEWIS CORPORATION 4436 Long Beach Ave., Los Angeles 58, Calif., ADams 3-7146
CANADIAN DIV.: HIGGINSON EQUIP. SALES LTD. 1131 Pettit Road, Burlington, Ontario

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FOR FAST TALK THAT PAYS OFF

your business needs...

ELECTRONIC AMPLICALL INTERCOMMUNICATION

the "clear line" to everyone in your business...

available with privacy handset, light and chime signals

★ AMPLICALL saves time and cuts costs because it provides *2-second speech contact* within and between all departments of your business. At the touch of a button, you get information, issue instructions, hold conferences, speed action in plant and office. AMPLICALL takes the load off busy switchboards, ends wasteful walking and waiting—pays for itself in speedier, more efficient operations. There is an AMPLICALL system for your exact needs. Get the facts today.

★ **See your Classified Phone Book under "Intercommunication" for the nearest AMPLICALL specialist—or write us direct for full details.**

RAULAND-BORG CORPORATION
3535-H Addison St., Chicago 18, Ill.

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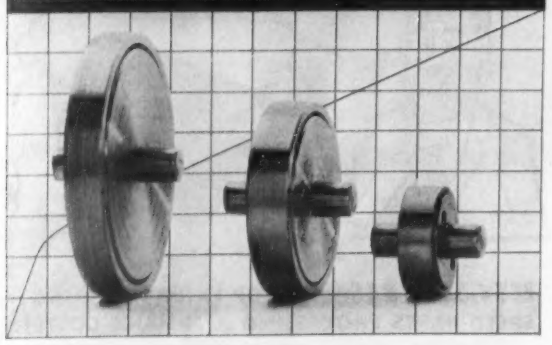
MINIATURE ROTARY POSITIONING CONTROLS

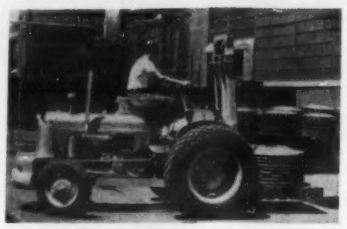


Inch Ounces to 65 Inch Lbs.—Precisely, positively held in an infinite number of positions. Clockwise or counter-clockwise rotation. No backlash. Low breakaway torques. Vibration proof. Applications include no-back, potentiometer positioner, dial control, clutch, coupling, etc. Patented principle. Diameters ¾" to 1¾". Depth 5/16". We'll gladly send literature.

REID CONTROLS
Reid Metal Products, Inc.
2021 N. Lincoln St., Burbank, Calif.

▲ For more details circle NED-541 E9 on enclosed inquiry slip ▲

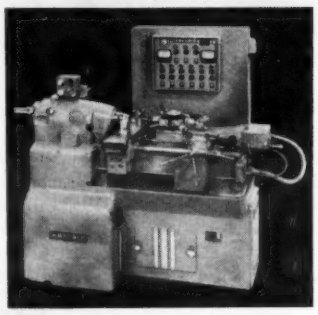
FORK LIFT TRUCK has 5000-lb capacity



Hydraulic side shifter enables the operator of the engine-powered Model 550 fork lift to shift the carriage 3¾ in. to either side of center to save maneuvering time. Lift has a capacity of 5000 lb at 15-in. load center and 4000 lb at 24-in. load center. Lift heights are 8½ and 10½ ft. The mast tilts 10 degrees forward and backward. Lift has a 52-in. fixed tread front axle, power steering, 12-ft turning radius, and a counterweight grille. Maximum speed is 14.88 mph. Forks are furnished in optional lengths of 30, 36, 42, and 48 in. Other attachments are concrete block forks, hydraulic scoop bucket, log clamp, and dozer blade. Made by **Oliver Corp.**, 19300 Euclid Ave., Cleveland 17, Ohio.

▲ For more details circle NED-544 E9 on enclosed inquiry slip ▲

HAND SCREW MACHINE features electronic controls and speed range from 40 to 4000 rpm



Lots from 25 to 2500 pieces can be economically produced on the Speedi-Matic, an improved hand screw machine with simplified electronic controls and hydraulically powered turret. A separate speed may be preset for each of the six turret positions (including a reverse speed for tap withdrawal) and for each of two cut-off and forming slide positions. Infinitely variable speed range is 40 to 4000 rpm, and feed range is ⅛ to 16 ipm.

Control center includes a feed indicator, a dual rpm and sfpm indicator, and a work diameter selector. As the power feed turret is manually retracted, it is hydraulically indexed and accurately located within 0.0002 in. Adjustable length stop for each turret position allows quick setting for depth of cut. Turret working stroke is 5 in. Spindle is driven by a 5-hp direct current motor. Bar stock capacity is ⅞ in. Made by **Monarch Machine Tool Co.**, Oak Street, Sidney, Ohio.

▲ For more details circle NED-545 E9 on enclosed inquiry slip ▲

Packaged Power Supplies

Kepco, Inc.—Transistorized, vacuum tube, and magnetic tubeless types of voltage regulated power supplies for commercial, industrial, and military applications are subject of 16-page Catalog B591. Complete specifications are given on all models.

▲ For more details circle NED-546 E9 on enclosed inquiry slip ▲

KLIXON Snap-Acting THERMOSTATS provide
POSITIVE TEMPERATURE CONTROL
in General Electric's Fluorescent Luminaire

280 G. E. Form 606 street lights with 6-foot "Power Groove" lamps, mounted four to a pole, are used in the Chicago State Street Relighting Project.

To safeguard their product against excessive temperature, General Electric uses two KLIXON 202 Snap-Acting Thermostats in each light. These help improve lighting efficiency by turning on and off a fan-cooling system at specific temperatures.

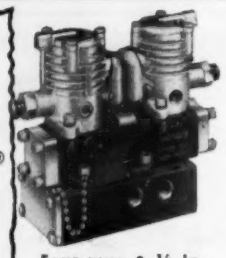
KLIXON Snap-Acting Controls respond to temperature change quickly and with accurate repeat performance; they have ample capacity to handle the required electrical loads; and their calibrations stand up in the face of severe environmental conditions.

General Electric Company, Outdoor Lighting Department, is another of the hundreds of leading manufacturers specifying and using KLIXON Controls. Send for *new* KLIXON Commercial Thermostat Catalog.

METALS & CONTROLS CORPORATION
Versailles Products Division
KLIXON 3305 N. Main St. Versailles, Ky.

▲ For more details circle NED-548 E9 on enclosed inquiry slip ▲

Lower assembly and maintenance costs with
SPEED KING®
Plug-in Control Valves



Four-way • ¼ in. NPT • sub-base or manifold mounting • ac or dc, any voltage (illustrated with optional manual override).

With SPEED KING plug-in valves, permanent piping and wiring connections are made in the sub-base or manifold at assembly. Then, valves and pilots are plugged in . . . bolted down. Built-in plugs complete electrical circuits automatically!

For faster assembly . . . simplified piping and wiring . . . quick in-service maintenance . . . multi-million cycle dependability . . . specify SPEED KING plug-in control valves.

Coils guaranteed against burn-out for the life of the valve.

Valvair AKRON 11, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)
Other INDUSTRIAL DIVISIONS of IBEC: The Sinclair-Collins Valve Co. The Bellows Co., Akron, Ohio • V. D. Anderson Co., Cleveland, Ohio.
8020

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"ONLY 20 SECONDS* HOLE and ALL . . .

is all it takes to ANCHOR into BRICK or CONCRETE with DHD® Hammer Drive Anchors. They are SAFE, fast and secure. The smallest size holds 500 to 700 lbs. For use indoors or outdoors. Sizes available from *3/16" x 7/8" to 1/2" x 3-1/2". Would you like to try a few samples, free? Just fill in the coupon below."

JOHN A. WRIGHT Vice President

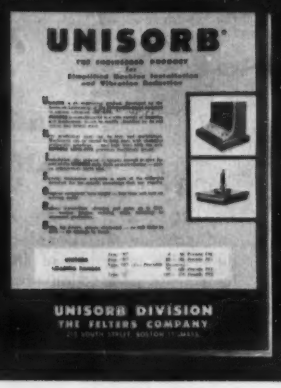
WHERE TO BUY DHD® ONLY thru your wholesaler, whose stocks of all Diamond Anchors enable you to get fast delivery service. This policy plays an important part in your ability to get contracts done faster and profitably.

Diamond Expansion Bolt Co.
Garwood, N. J., U.S.A.
Please send me samples of your DHD Hammer Drive Anchors
Name
Concern
Street
City State

BRANCHES: Atlanta • Boston • Chicago • Dallas • Denver • Detroit • Los Angeles • New York • Philadelphia • Pittsburgh • San Francisco • Seattle • St. Louis • Washington, D. C. • Montreal • Vancouver • Canada.

▲ For more details circle NED-543 E9 on enclosed inquiry slip ▲

NEW BULLETIN on Machinery Mountings



Tells how to save time and money when installing all types of machinery. Describes savings of 30% and more in cost, 80% in time. Shows a "Do-It-Yourself" Leveling Mount, describes Unisorb cement and Unisorb Vibration absorption; and gives more valuable tips.

Unisorb pads come in a wide range of densities — a type for every kind of machine. Look for the red center and brand mark.

Send for this New Unisorb Bulletin and details on Money-Back Trial Offer today!

UNISORB
Division of The FELTERS Company
224 South St., Boston 11, Massachusetts
FE9-11

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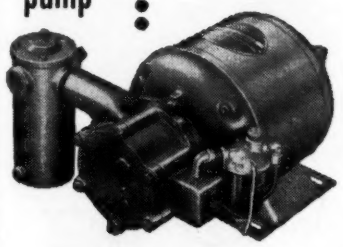
NEED VACUUM?

use the COMPACT pump

The Motoair Pump is built integral with its own motor to take the least amount of space and to avoid extra assembly necessary with separate drive.

Automatic lubrication complete with re-circulating system and visible oil reservoir is a feature of



the MOTOAIR®

Instantaneous suction and positive action is provided with the Motoair, being directly driven at the same rpm. as the motor.

ASK FOR CATALOG with performance data on various sizes of pumps. Oil-less models also available.

824

NEW JERSEY MACHINE Corporation
FACTORY SALES AND SERVICE BRANCHES
CHICAGO, CINCINNATI LOS ANGELES
1550 WILLOW AVENUE, HOBOKEN, N. J.

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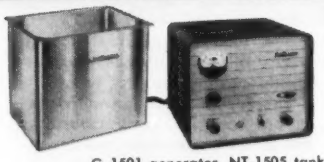
MAMMOTH narda SONBLASTER



America's first mass-produced industrial-size ultrasonic cleaner!

G-1501 generator, NT-1505 tank.

MAMMOTH 5-GAL. TANK $695

Other models from $175. 2-year guarantee on all units.
Interior tank size (in.), 10W x 14L x 9½H. Tank Capacity, 5 gallons.

The Narda Model 1500 SonBlaster helps you save seven ways over costly solvent, alkaline or vapor degreasing! It cleans faster, speeds production, cuts rejects, eliminates bottlenecks! It saves on chemicals & solvents, cuts maintenance and downtime! What's more, there's no expensive installation; it saves on floor space and labor!

You get the tremendous activity of this new 200-watt Narda SonBlaster with the largest transducerized tank ever made, at the lowest price in the industry! Or, operate up to four submersible transducers from this same generator at one time, in any size or shape tank you desire.

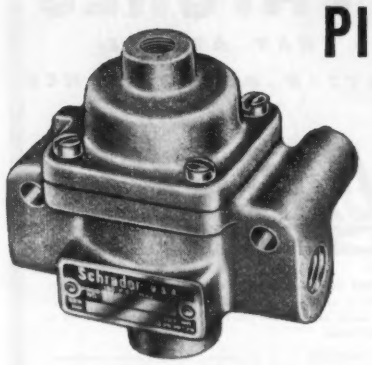
Simply plug the SonBlaster into any 110-115 V AC line, and flip the switch. In seconds, you'll clean 'most any mechanical, optical, electrical, medical or horological part or assembly you can think of. Perfect, too, for brightening, polishing, radioactive decontaminating, pickling, quenching, and plating; emulsifying, mixing, sterilizing, impregnating, degassing, and other chemical process applications. Write for more information to determine the model best for you. Address: Dept. NED-7.

The SonBlaster catalog line of ultrasonic cleaning equipment ranges from 35 watts to 2.5 KW, and includes transducerized tanks as well as immersible transducers, for use in any size or shape tank.

the narda ultrasonics corporation
625 MAIN STREET, WESTBURY, L. I., N. Y.
Subsidiary of The Narda Microwave Corporation

▲ For more details circle NED-550 E9 on enclosed inquiry slip ▲

NEW THREE-WAY PILOT AIR VALVES



. . . Complete new line
. . . Normally open or normally closed types
. . . May easily be converted to solenoid type

Ideal for operating single-acting cylinders. 1/4", 3/8", 1/2", 3/4" and 1" N.P.T. port sizes. Compact size, sturdy construction and simplicity of parts assure long service life and neat air system hookups. Choice of actuating valves to load and relieve pilot can be made from Schrader's many 3-way valves. Flow capacities 60 to 400 cu. ft. per minute.

Send for informative literature on these and all your air control needs. Schrader, maker of the most complete lines of air products in the world, has all the answers.

Schrader®

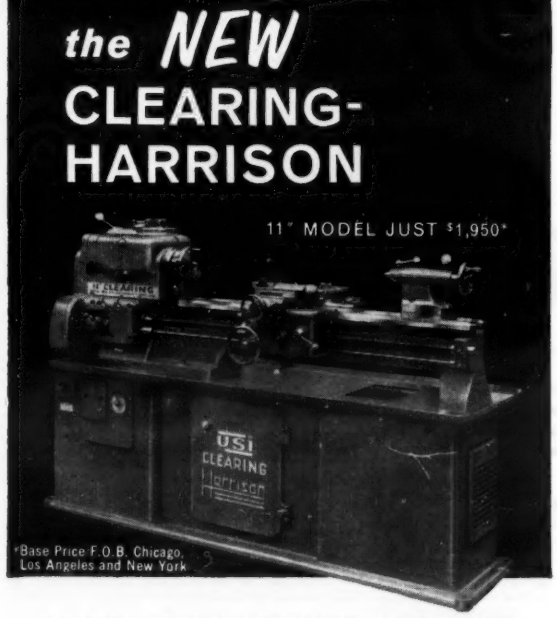
A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Inc.
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

▲ For more details circle **NED-551 E9** on enclosed inquiry slip ▲

HERE IS *QUALITY* AT A SENSIBLE PRICE

the NEW CLEARING-HARRISON

11" MODEL JUST $1,950*



*Base Price F.O.B. Chicago, Los Angeles and New York

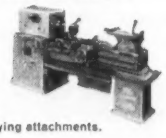
Not only does the Clearing-Harrison look like a lathe that should cost 50% more than its list price, it *performs* that way. And it will continue to perform year after year as only a fine machine tool built to uncompromisingly high standards of precision can.

It has taper roller bearings in the spindle, hardened and ground ways, precision hobbed, heat treated nickel chrome gears. A removable section in the bed provides a gap giving a maximum swing of 18¾" on this 11" lathe. These and other fine features are found only in the Clearing-Harrison—sold and backed by Clearing division of U.S. Industries, Inc.

Delivery is immediate on this and on 13" and 16" lathes, too. Find out more about these and the many other benefits you get on the Clearing-Harrison. Write Clearing for details.

● 13" Swing $2,950

16" Swing ● $4,450



Also available with factory-built copying attachments.

Coast to Coast Service Facilities

Clearing's nationwide facilities assure you of prompt service always. Replacement parts and accessories are stocked at Clearing and are available thru all plants, at all service centers and thru all Clearing dealers.

Clearing, division of U. S. Industries, Inc., also manufactures the Clearing-Axelson line of engine lathes, power presses of all types, dies and special tooling, and special equipment for the aircraft and missiles industry.

Write for Clearing-Harrison catalog.

USI Clearing Division of U. S. Industries, Inc.
6499 W. 65th Street • Chicago 38, Illinois

Plants in: Chicago, Ill. • Hamilton, Ohio • Los Angeles, Calif.

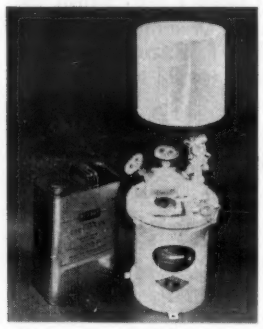
▲ For more details circle **NED-552 E9** on enclosed inquiry slip ▲

LIGHTED PANELS
all elements sealed in single unit

Lettering, colors, lights, sockets, resistors, and circuits are contained within this Lampanel which operates on 110-v ac or, with less intensity, on direct current. Gas type bulbs have life expectancy of up to 6000 hr, and their light is transmitted laterally through an acrylic layer to the plastic board where it is reflected through the front surface in an even red or orange color. They conform to MIL-P-7788A specs. Made by **Miller Dial & Name Plate Co.**, Dept. EI-LP, 4400 N. Temple City Blvd., El Monte, Calif.

▲ For more details circle **NED-553 E9** on enclosed inquiry slip ▲

LIQUID FLUX FEEDER
flux is vaporized into gas stream



Constant and unobstructed flow of flux is maintained by the Liquifluxer, designed to vaporize Liquiflux into the gas stream automatically as required. Flux passes through the welding torch into the flame in the correct amount. A glance at the nonclouding liquid level gage shows the flux content. As the flame contacts the metal part, the flux in the flame cleans and fluxes the metal. Liquiflux can be used for brazing nonferrous metals to steel and iron and for welding of copper, brass, bronze, cast iron, and malleable iron. Made by **Sight Feed Generator Co.**, 38 E. Third St., West Alexandria, Ohio.

▲ For more details circle **NED-554 E9** on enclosed inquiry slip ▲

NYLON CABLE CLAMPS
adjustable type can be released

Lok-Strap nylon cable clamps incorporate a miniature quick-release tab which holds the clamp band tightly around wires and opens instantly with fingergrip pressure. One size accommodates wire harnesses with 1/8 to 2-in. diameters. Wires may be traced, added, or removed from the harness easily and repeatedly by opening the clamps. Service temperature range is −65 to 350° F. Made by **Panduit Corp.**, Dept. NDC, 14461 Waverly Ave., Midlothian, Ill.

▲ For more details circle **NED-555 E9** on enclosed inquiry slip ▲

Light TROUGH-BELT CONVEYORS

Elevates: Sand • Gravel • Dirt • Cement
Quartzite • Taconite • Slag • Fertilizer
Cinders • Concrete Pipe • Shingles
Lumber • Rolled Roofing • Insulation
Tile • Salt • Vegetables
Grain • Refuse
Animal Food Pellets
Chemicals

TR12 SERIES

TR Series conveyor without undercarriage for permanent or semi-permanent installations.

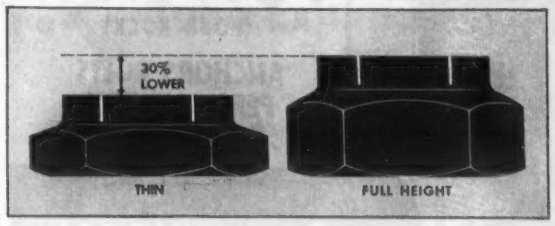
Stationary or portable. Steel, Aluminum, or Stainless Steel. 12" or 18" belt. Lengths as required. Horizontal or incline operation. Low cost. Low maintenance.

Send for Bulletin 105.
PHONE 1000 Dept. NED

NEW LONDON ENGINEERING CO.
NEW LONDON, WIS.

▲ For more details circle **NED-556 E9** on enclosed inquiry slip ▲

FLEXLOC thin nuts save weight, space, production time



FLEXLOC self-locking thin nuts are 30% lower—and correspondingly lighter—than full-height locknuts. They lock with shorter bolts; fit in spaces where ordinary locknuts will not go; help you design more compact bolted joints. They speed production, because fewer turns are needed to seat them.

Despite their reduced height, FLEXLOC thin nuts provide high locking reliability. This is because in a FLEXLOC every thread, including those in the locking section, carries a full share of the tensile load. And because FLEXLOCs require no auxiliary locking devices, they facilitate design and specification, simplify inventory, save steps in assembly. They also save on maintenance, because they can be reused repeatedly. See your SPS distributor or write direct for new Bulletin 866.

INDUSTRIAL FASTENER Division **SPS**
JENKINTOWN 24, PENNSYLVANIA

▲ For more details circle **NED-557 E9** on enclosed inquiry slip ▲

Now! PALLETIZED *Wood Floor Blocks save you money . . . speed floor repair!*

CUTS HANDLING COSTS! Each pallet load of top grade creosoted wood floor blocks compactly strapped for fast efficient fork truck handling! Blocks banded together in units of 18 to 22 blocks for fast, easy handling at job site.

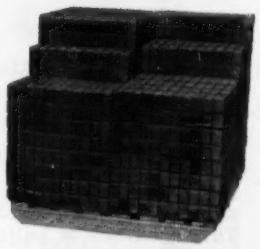
CUTS LABOR COSTS! No loose blocks to handle by hand! Pac-A-Blocks are easier to unload...easier to move from job to job . . . easier to install! Blocks stay on pallet until last bundle is used. You save on time, labor . . . eliminate block loss and breakage!

CUTS STORAGE COSTS! Pallet loads protected by weather-resistant bags for outdoor storage...can be stacked on one another to save valuable storage space!

IMMEDIATE SHIPMENT! 25 to 400 sq. yds. shipped within 24 hours!

Install PAC-A-BLOCK the modern way with NEW KRE-X Floor Bond! Ready to use. Fast setting. Seals against moisture, oil and dirt. Resilient—won't chip or crack.

WRITE TODAY FOR NEW BULLETIN!

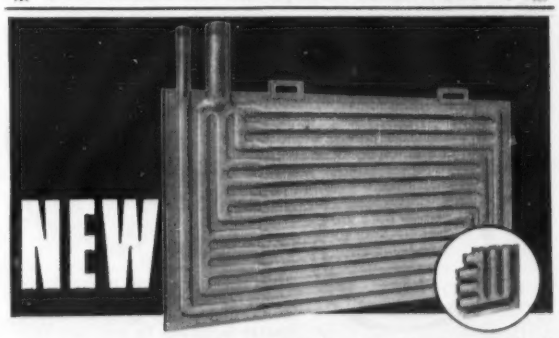


Pac-A-Block sizes don't vary

Blocks go down fast with KRE-X

PAC • A • BLOCK
HAYDEN-SHAW MINERAL PRODUCTS • 7816 W. JEFFERSON • DETROIT 17, MICH.

▲ For more details circle **NED-558 E9** on enclosed inquiry slip ▲



MULTI-ZONE **PLATECOIL®**

An exclusive* Tranter advancement in heat transfer technology

Greater pressure containment (operating pressures up to 250 lbs.) has been achieved with exclusive TRANTER DURAWELD construction and mill-controlled mild TRANSTEEL. FULL-FLO action with protection against condensate trapping plus the time-proven PLATECOIL advantages over pipe coils improve performance and cut cost.

*Patents Applied For

WRITE FOR NEW BULLETIN P57.

PLATECOIL® DIVISION
TRANTER MANUFACTURING, INC.
LANSING 9, MICHIGAN

▲ For more details circle **NED-559 E9** on enclosed inquiry slip ▲

POR-ROK

1. Fastens anything into concrete—PERMANENTLY—in minutes
2. Lowest cost
3. Mixed with water and poured into place
4. Applied cold
5. Self-leveling, self-bonding, oil resistant, never shrinks
6. Compression strength 4,500 psi in 1 hour

For complete information—without obligation—write

THE HALLEMITE MFG. CO.
2452 WEST 25th ST. • CLEVELAND 13, OHIO SINCE 1927

For more details circle **NED-560 E9** on enclosed inquiry slip

USE THIS NEW KIND OF DIAMOND CUT-OFF WHEEL

Gives narrower, smoother cuts on industry's toughest materials

...yet prices start at only $32.25

Now... at *production prices*... DIATRONIC gives you a rim width of .006" that's accurate to a maximum total tolerance of .0005"—or your money back. This accuracy is built in by a new process. No break-in needed. New narrow cut reduces sawdust loss 30%. A must for $3,000-a-pound silicon or germanium crystal. Cuts tungsten carbide, corundum, aluminum oxide, glass... practically anything. Stock orders shipped in hours; special wheels available. Write for literature, price list.

Another invention marketed by
NAVAN PRODUCTS, INC.
Subsidiary of North American Aviation, Inc.
Dept. 222, International Airport, Los Angeles 45, Cal.

DIATRONIC* DIAMOND WHEELS
"with built-in tolerance" *TRADEMARK

For more details circle **NED-561 E9** on enclosed inquiry slip

SAVE TIME, WEIGHT, HANDLING with TINNERMAN *Speed Clamps*®

HOSE CLAMP—One-piece, low-profile, spring steel. Ideal for low-pressure air, vent or drain lines. Easily applied to pre-latched position by hand, securely tightened with a pair of pliers. Ratchet-tooth locking mechanism is part of Clamp! Easily removed. For 15/32" O. D. hose, up.

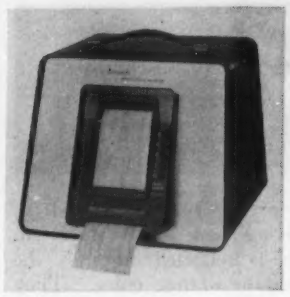
ELECTRICAL HARNESS CLAMP Has a safe, interlocking tongue and slot that can't spring open accidentally, yet opens easily for servicing. No tools required. Can be pre-assembled to wire bundles before fastening to structure. For 1/8"-diameter bundle, up.

TUBE CLAMP—Simplifies attachment of tubing. With or without self-retaining SPEED NUTS that cut assembly time. With or without neoprene flame-resistant cushion. For 1/16" O.D. tubing, up.

Write for free descriptive literature!
TINNERMAN PRODUCTS, INC.
BOX 6688, DEPT. 12, CLEVELAND 1, OHIO

For more details circle **NED-562 E9** on enclosed inquiry slip

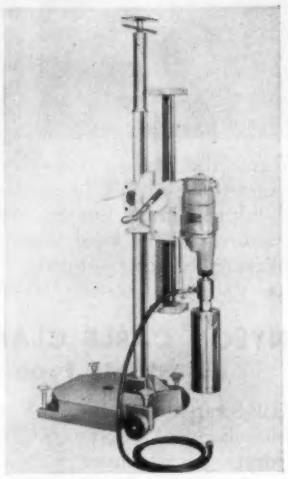
EQUIPMENT MONITOR
records on-off, pulse, event data



Thirty channels of on-off, open-shut, pulse, or event type information are recorded by the Model RE 3303-00 Operations Monitor. It provides an electrically written chart record of all operations and their duration. The transistorized writing system is unaffected by ambient conditions. Typical applications include recording operation of relays, valves, motors, and pumps; production testing and monitoring of computers and automatic equipment; recording missile performance; monitoring pulse or telemetry system operations; and recording pilot plant and prototype performance. Wide range of chart speeds provides signal resolutions as small as 0.004 sec. Unit weighs only 20 lb. Made by **Clevite Corp.**, Brush Instruments Div., 37th and Perkins Avenue, Cleveland 14, Ohio.

For more details circle **NED-563 E9** on enclosed inquiry slip

MASONRY DRILL
uses diamond core drills



Round holes are drilled in reinforced concrete, masonry, granite, marble, and other materials at any angle within a full 360 degrees with this Core-Lock diamond drilling machine. Feed system assures safe operation in any drilling position, and telescopic extension can be used for bracing. Vacuum attachment can be used for anchorage to any smooth surface with a hold-down force of up to 8000 lb. Diamond core drills are used with water as a coolant which is supplied through a water swivel between the drill and the motor. Motors with several speeds and power ratings can be supplied, as can a line of accessories. Made by **Felker Mfg. Co.**, 1128 Border Ave., Torrance, Calif.

For more details circle **NED-564 E9** on enclosed inquiry slip

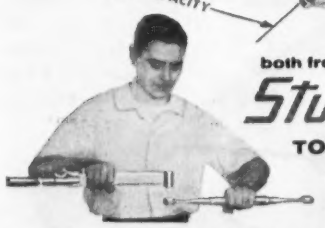
This Equipment Solves Problems

Whiting Corp.—How a variety of industries solved difficult maintenance, production, and materials handling problems through use of Whiting equipment is related in 10-page booklet "Performance Briefs." Among products described are Hydro-Arc electric furnace, cranes, overhead handling systems, and the Trackmobile freight car mover for road and rail.

For more details circle **NED-565 E9** on enclosed inquiry slip

NOW... 2 TORQUE Ranges (to 900 Foot pounds)

both from one
***STURTEVANT* TORQUE WRENCH**



Now you can do high torque work with a Sturtevant Torque Wrench of normal capacity range—small in size—light in weight—with fine increment markings and moderately priced.

With a new Multi-range, Multi-purpose Adapter you can step up the capacity of your Torque Wrench to a new high range and you can plug in any drive end you want... Box wrench, ratchet, drive square for sockets.

All drive end accessories are interchangeable and stock items.

In this way each Sturtevant Torque Wrench effectively equals two complete sets of ordinary single purpose Torque tools.

WIDE CHOICE OF INTERCHANGEABLE DRIVERS

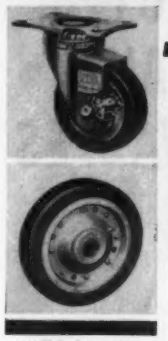
Only Torque wrenches with the Sturtevant patented pivoted handle can be accurate with adapters.

write for No. SD-77 catalog sheet

P.A. STURTEVANT CO.
ADDISON QUALITY ILLINOIS

For more details circle **NED-566 E9** on enclosed inquiry slip

***these are the* FEATURES**
THAT ASSURE BETTER PERFORMANCE IN



DARNELL
CASTERS AND WHEELS

RUBBER TREADS . . . a wide choice of treads suited to all types of floors, including Darnelloprene oil, water and chemical-resistant treads, make Darnell Casters and Wheels highly adapted to rough usage.

RUST-PROOFED . . . by zinc plating, Darnell Casters give longer, care-free life wherever water, steam and corroding chemicals are freely used.

LUBRICATION . . . all swivel and wheel bearings are factory packed with a high quality grease that "stands up" under attack by heat and water. Zerk fittings are provided for quick grease-gun lubrication.

STRING GUARDS . . . Even though string and ravelings may wind around the hub, these string guards insure easy rolling at all times.

Will help make your selection easier

Write for Free Darnell Manual

DARNELL CORPORATION, LTD.
DOWNEY (LOS ANGELES COUNTY) CALIFORNIA
37-28 SIXTY-FIRST ST., WOODSIDE 77, L. I., N. Y.
36 NORTH CLINTON STREET, CHICAGO 6, ILLINOIS

For more details circle **NED-567 E9** on enclosed inquiry slip

***Kling* MILL-ALL**
for high speed facing of structural steel shapes, plates, forging and castings!

- *All structural shops can afford* this extra powerful, high speed machine ... Available in numerous sizes.
- Has exceptional accuracy ... Gives high quality finish.

- All welded steel construction
- Ball screw feeds
- More power
- Cutter mounted on motor shaft
- Simple to operate

WRITE for full information and Bulletin MA-1

KLING BROS. ENGINEERING WORKS
1320 N. KOSTNER AVENUE • CHICAGO 51, ILLINOIS
Export Distributor: Simmons Machine Tool Corp., 50 E. 42nd St., New York 17
Exclusive Canadian Distributor: Rudel Machinery Company, Limited

For more details circle **NED-568 E9** on enclosed inquiry slip

THE MARK OF QUALITY
BARBER COLMAN
Wheelco Instruments

Quality Instrumentation Needn't Be Expensive

Don't confuse cost with quality in choosing indicating controllers. Wheelco 290 Series instruments offer you a choice of either fast and accurate "on-off" control or straight-line control without overshoot by adding the built-in Capaciline.

Temperatures up to 3000°F can be controlled, using a variety of sensing elements. Plug-in components for easy inspection, adjustment, and servicing—normally associated with higher priced instruments—are typical of high-quality standard features.

Get more details from your nearby Wheelco field engineer or write for Bulletin F-5358-1.

BARBER-COLMAN COMPANY
Dept. Q, 1514 Rock Street, Rockford, Illinois

For more details circle **NED-569 E9** on enclosed inquiry slip

A NEW IDEA IN PREPARATION SCREENS

Designed to eliminate blinding when screening large amounts of near-opening size materials

THE WEDGE-WIRE

*TAPER-SLOT

patent applied for

*From loop to loop, the opening or slot gradually increases in width. This new design enables materials that would normally lodge between the wires to be transported, with the flow of the mass, to the larger opening of the taper slot. At this point the material either passes through the screen or becomes loose. In addition, the "dip" created by Wedge-Wire loop construction, frees oversize materials and allows them to continue on with the material flow. These factors are responsible for the high efficiency of the TAPER-SLOT screen.

*for example: .016 opening tapered to .024 — the combination of opening sizes would be the same between each loop throughout the entire screen.

The new TAPER-SLOT can be easily interchanged with other types of Wedge-Wire Kleenslot screens. Available in all Wedge-Wire materials.

for additional information . . . write
WEDGE-WIRE CORPORATION
Wellington, Ohio

For more details circle NED-570 E9 on enclosed inquiry slip

WATER

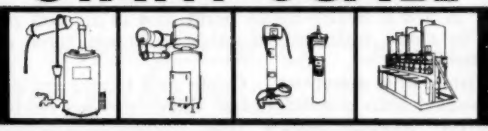
DISTILLED, DEMINERALIZED,

or 18,000,000 OHM PURITY?

BARNSTEAD EQUIPMENT

produces it in laboratory quantities or on a

GIANT SCALE



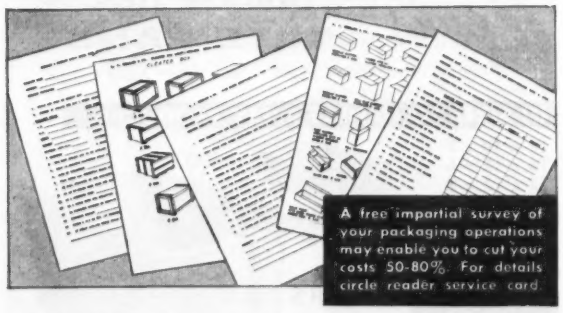
Whatever your pure water requirement, distilled, demineralized, or even water of 18,000,000 ohm purity, you can depend upon Barnstead for the right answer . . . the right equipment . . . Barnstead makes both . . . Stills and Demineralizers . . . and specialized equipment such as the MF®Submicron Filter . . Pure Water Specialists since 1878.

Write for Catalog "G" and Catalog 127.

Barnstead
STILL & STERILIZER CO.
16 Lanesville Terrace, Boston 31, Mass.

For more details circle NED-571 E9 on enclosed inquiry slip

Want to cut your packaging costs?



Today's tight profits mean that cutting costs is imperative. A re-evaluation of your packaging methods, for example, might show that through the use of A. J. Gerrard's modern strapping techniques, you can eliminate costly carton set-up time; or, that you can save as much as 50 to 80% on strapping materials with our new *oval* strapping. In any case, by reviewing your present methods with an A. J. Gerrard packaging specialist, he'll undoubtedly help you uncover *many* avenues for reducing costs.

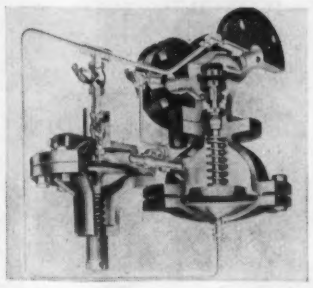
A personalized survey of your operation is available free and with no obligation . . . simply circle the reader service card.

FREE NEW CATALOG

A.J. GERRARD AND COMPANY
1954 Hawthorne Boulevard • Melrose Park, Illinois

For more details circle NED-572 E9 on enclosed inquiry slip

PRESSURE REDUCING VALVE
for water, gas, or other fluids



Pressure reductions in range of 600 psi initial to 1 psi reduced are performed in one step by this Class AD pilot operated pressure reducing valve. It requires a minimum of piping and is easily located in system. Steam, gas, oil, air, or practically any fluid is handled. Choice of three interchangeable springs affords precise reduced pressures adjustable between 0 and 125 psi through diaphragm mechanisms and pilot. Valve will also give dead-end closing and is available with up to 3-in. full port opening. Made by **C. E. Squires Co.**, 18502 Syracuse Ave., Cleveland 10, Ohio.

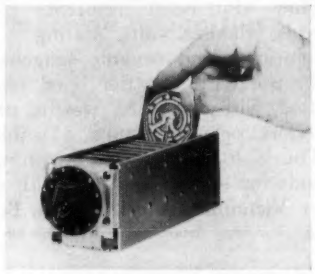
For more details circle NED-573 E9 on enclosed inquiry slip

PHOTOELECTRIC UNITS
can make 10,000 counts per minute

Measuring only 1¼ x ¾ x 2½ in., Fotolectric exciter lamp and photocell units are offered in three models of varying capacities. They operate at up to 10,000 counts per minute, depending upon the electronically operated relay unit used. Heads of solid aluminum are machined to house components. Made by **Worner Electronic Devices**, Box 17, Rankin, Ill.

For more details circle NED-574 E9 on enclosed inquiry slip

ROTARY SWITCH
has quickly replaceable wafers



Errorproof replacement of any wafer without removal of any wires minimizes the time this rotary switch is out of service. The wafers lift out instantly without disassembling the switch, offered in 2 x 2, 3 x 3, and 4 x 4-in. sizes in lengths to accommodate up to 36 wafers. A virtually unlimited choice of switch circuit configurations is possible. All connections are to a single bank of receptacles, accessible from one side. Contacts are silver, gold, or rhodium plated on a copper base. Wafers can be made to include printed circuitry in addition to their normal function. Switches can be manually, motor, or solenoid operated. Made by **Chicago Dynamic Industries, Inc.**, Precision Products Div., 1725 Diversey Blvd., Chicago 14, Ill.

For more details circle NED-575 E9 on enclosed inquiry slip

Have You Considered the Important Advantages of FILLED TEFLON*?

Teflon can be considerably enhanced by the use of fillers in certain applications. The use of fillers permit it to be more readily tailored to a wide variety of chemical, electrical and mechanical applications. Also, some mechanical properties can be improved. These include:

1) **resistance to deformation under load**
2) **resistance to wear**
3) **thermal conductivity**
4) **compressive strength**
5) **hardness**

This is the reason filled Teflon has become an important item in the "John Crane" Chemlon® line of better Teflon products.

Chemlon is available with such fillers as glass fiber, carbon, graphite, copper and bronze, talc, calcium fluoride and other inorganic materials.

Request Bulletin T-104. Tell us about your requirements.

Crane Packing Company, 6411 Oakton Street, Morton Grove, Ill. (Chicago Suburb). *In Canada. Crane Packing Co., Ltd., Hamilton, Ont.*

*DuPont Trademark

For guide bushings, vanes and wear rings.

For formed gaskets, valve seats and packings.

For electronic bushings, insulators and tuning slugs, also rod and tubing.

CRANE PACKING COMPANY

For more details circle NED-576 E9 on enclosed inquiry slip

IDEAL

the answer to small hand hole problems!

Series 900

Tube Expanders

. . . for Rolling and Flaring Tubes in Super-Heater Units. Series 900 NOW made for tubes as small as 15/16" inside diameter.

Expander, Mandrel and Joint in one compact unit, assures easy entry and withdrawal.

Series 940

See Your Dealer, or Write Us Today!

THE GUSTAV WIEDEKE COMPANY
DAYTON 1, OHIO

For more details circle NED-577 E9 on enclosed inquiry slip

MIDGET MUFFLERS Ready!

M-1 ONLY $1.95

Sensational!

Industry's handiest new devices! They're made from polyether foam enclosed in anodized aluminum — they silence noises caused by exhausting air. Rust-proof; common solvents clean 'em! Use M-1 or 2 for 1/8" or 1/4" exhaust ports; M-3 for 3/8" port. Order your Mead Midget Mufflers direct or send for name of nearest Mead Distributor.

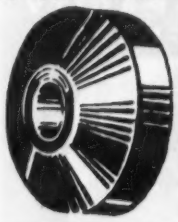
M-2 $1.95

M-3 $2.50

MEAD SPECIALTIES COMPANY
4114 N. Knox Ave., Dept. NA-59, Chicago 41, Ill.

For more details circle NED-578 E9 on enclosed inquiry slip

TO CUT MAINTENANCE COSTS USE ONLY . . .



FLO-RITE FAUCET WASHERS

NO MORE DRILLING, TRIMMING OR SWELLING!

FLO-RITE CAN TAKE IT
A Really Dependable Washer for Professional Use

CHECK THESE MAINTENANCE CUTTING FEATURES EXCLUSIVE WITH FLO-RITE

- Inward taper for fast, easy insertion. Flat style washers also available.
- Process molding eliminates trimming edge at bottom.
- Pre-punched for immediate use. Opening is always "dead center."
- 1/64" thicker to fill all new style washer retainers.
- Made of pure Type W neoprene. Doesn't swell in hot water.

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Brass / Tools / Sewer Equipment. Where "Quality is higher than price."

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BUY DIRECT! SAVE AT PALLEY'S

AS LOW AS 56.75

NEW PALLEY HYDRAULIC CYLINDERS — Here are two of our newly developed line of double action industrial Hydraulic Cylinders. These cylinders are designed to meet the most rigid requirements of industry. All are heavy duty steel construction.

Type (A) is a heavy duty, press type cylinder with bores of 3", 5", 6" and 8" — thrust range up to 75 TONS at 3000 PSI.

Type (B) is an internal cap type cylinder with bores of 1 3/8", 2", 2 1/2", 3", 3 1/2" and 4". Has strokes from 2" to 48". Delivers up to 18,850 lbs. thrust on 1500 PSI line pressure.

For complete listing of our tremendous stocks and prices — Send for our Special Hydraulics Catalog.

SAVE! 20.75 B AND UP

VICKERS HYDRAULIC ANGLE PUMPS

Save up to 50% on these Piston type, positive displacement Hydraulic Pumps. Made to top Government Specifications.

Part No.	G.P.M.	PSI	RPM	Price
H-P4A	5.3	1000	3000	$22.50
H-P5A	2.7	1500	3000	25.75
H-P4U	6	1000	3000	22.50

1500 PSI Double Action HYDRAULIC CYLINDER NEW

Good for clutch or throttle control when used as a master & slave. Has 5/8" bore, 4-1/8" stroke, 7/16" shaft, 9-5/8" closed length. 1/4" tube ports (7/16–20 thread).

No. H-60 ONLY . . . 3.75

HYDRAULIC ACCUMULATORS

A 3000 PSI Bendix ball type Accumulator. Top condition.

No. H-5½ — Has 5-1/2" dia. . . $27.50
No. H-A7 — Has 7" diameter . . 32.50

2000 PSI Ball ACCUMULATORS

No. H-A5SU — Vickers. 10" dia. $24.50
No. H-A5A — 5½" dia. NEW . . . 15.75
No. H-A5AU — 5½" dia. Used . . 10.75

NEW 3-TON SPUR GEAR CHAIN HOIST 179.50

WORTH $300

Army type with spur geared block. Constructed of steel & malleable iron. Chain drive. Use wherever an overhead trolley hoist is needed. Will handle up to 3 TONS. Model 41. Made by Chester White Mfg. Weight: approx. 540 lbs. Unused, good cond.

GRAVITY CONVEYOR

Has 500 lb. per ft. cap. 12" wide curved steel frame. 5 rows of 2" diameter, 5/8" face, ball bearing steel wheels. Each unit will lock to next. Has 45° curve. NEW!

14.95

Pay by M.O. or Check. P.O.s accepted from D&B firms rated F2½ or better. 1/2 deposit with C.O.D.s. Prices F.O.B. Los Angeles Wrhse.

palley's 2263 E. Vernon Ave. Dept. NED-59, Los Angeles, Calif.

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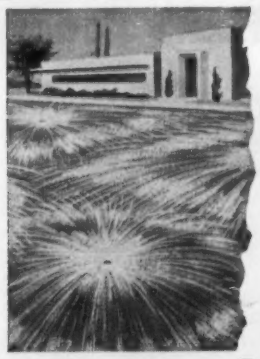


Industrial Users Report:

Just like Rain! RAIN JET SPRINKLERS

CUT LAWN WATERING COSTS 1/2

1 Rain Jet replaces 5 ordinary sprinklers

Save on installation. Fewer underground sprinklers mean great savings on pipe and fittings. Installation time is reduced 75%. Save on operation. Rain Jet's patented rotary pop-up action gives gentle rain-like drops for uniform coverage no matter what shape or size area. There's no runoff. No misting. No blow-away. In addition, Rain Jets are easier to maintain, ideal for automatic controls, and are unconditionally guaranteed.

VARIOUS PATTERN HEADS

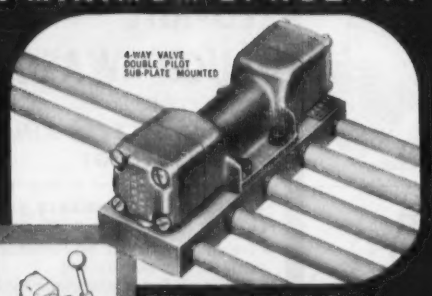
Squares up to 30' x 30'
Circles up to 50'
Strips up to 5' x 25'
Shrub Heads Adjustable
Rectangles up 5' x 40'
½ circles up 30'

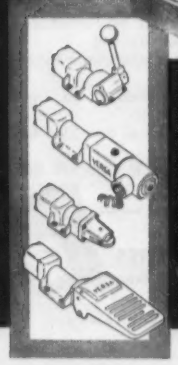
PLANNING SERVICE AVAILABLE
Write for specifications and installation data.

RAIN JET CORPORATION 301 S. Flower St., Burbank, California
Also makers of Rain Jet Rotary Shower Head

For more details circle NED-581 E9 on enclosed inquiry slip

FOR MAXIMUM CAPACITY IN MINIMUM SPACE . . .





THE VERSA MANIFOLD MOUNT VALVE

The Versa Manifold Valve has been especially designed for use where space is at a premium.

All piping can be installed, connected to manifold plate and even purged before installation of the valve itself. The valve is then simply bolted into place on the manifold plate. The valve proper, being independent of the piping, can be easily removed for service or replacement without disconnecting piping or disassembling the valve.

Versa Control Valves are available with any type of actuating device in sizes from ¼" to 1" NPT, in 2-, 3-, 4- and 5-way, type, and for pressures from partial vacuum to 500 PSIG.

All Versa Valves are triple pressure and functionally tested under water for guaranteed leakproofness.

Over 110,000 Variations . . . Ready for Immediate Delivery!

VERSA

Write today for your free copy of Versa's Catalog #14.

VERSA PRODUCTS COMPANY INC.
249-A SCHOLES STREET
BROOKLYN 6, N. Y.

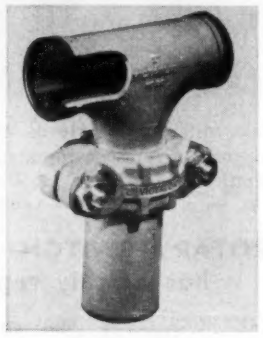
For more details circle NED-582 E9 on enclosed inquiry slip

FLUORESCENT LAMPS
single-end base, U-shaped designs

With a base on only one end, Westinghouse single-end fluorescent lamp does not require wiring and socket for both ends of the lamp. It can be connected to one socket much like a conventional incandescent light bulb. Also developed are U-shaped fluorescent lamps which have many of the advantages of single-ended tubes since all electrical wiring is confined to one end of the fixture. A U-shaped 75-w lamp is only half the length of a standard 75-w lamp. Units have efficiency equal to or greater than regular fluorescent lamps. For more information, write **Westinghouse Electric Corp.**, Lamp Div., MacArthur Avenue, Bloomfield, N. J.

For more details circle NED-583 E9 on enclosed inquiry slip

PVC-LINED PIPE FITTINGS
handle slurries at up to 1000 psi



Plastisol (PVC) lined pipe fittings in malleable iron or aluminum are offered in elbows, tees, reducing tees, reducers, caps, and adapter nipples in 1¼ through 12-in. diameters. Supplied with grooved ends for quick-jointing, fittings are suited for handling slurries and abrasive solids in suspension at pressures up to 1000 psi. They also resist numerous acids, alkalies, salts, plating solutions, and organic reagents. Although designed for use with plastisol lined pipe, fittings can also be used with standard weight pipe with uncoated interiors, or with linings of rubber, plastic, or cement. The ⅛-in. thick, seamless lining is lapped around the ends for effective sealing with coupling gasket. Made by **Victaulic Co. of America**, Box 509, Elizabeth, N. J.

For more details circle NED-584 E9 on enclosed inquiry slip

Motor-Driven 35-MM Camera

Karl Heitz, Inc.—Multiple uses of automatic photography with the Robot electro-automatic photo recording system are related in 24-page illustrated booklet. Section I describes the system components, including the automatic 35-mm camera, 30 or 200-ft back, electric booster motor, remote release, and electric timers. Section II is devoted to its many scientific and industrial uses.

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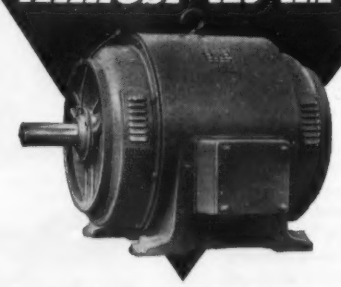
A 125 H.P. Brook A.C. Motor Is NOT Almost 125 H.P.



WHEN you purchase a Brook Motor of a given horsepower, that is just what you get. You need not buy 150 H.P. to make sure you get the 125 you require. Every Brook Motor has ample "copper" to deliver the particular horsepower involved—every Brook Motor is dynamically brake tested. You just cannot buy a better motor—yet, Brook Motors cost you up to 20% less than ordinary electric motors. Get the facts—send for literature. Standard frame and new NEMA Rerate frames. 1 to 600 H.P. Warehouses and Service Centers in major cities.

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In Canada: BROOK ELECTRIC MOTORS OF CANADA LTD.
250 UNIVERSITY AVE., TORONTO, ONTARIO

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Permanently End Thread Failure That Costs You Needless
• downtime • production loss • labor costs

Worn, stripped threads? Here's all you do:

1. drill out the old threads
2. tap with Heli-Coil* tap provided in SHOP-PACK
3. wind in a Heli-Coil precision formed, stainless steel Screw-Thread Insert.

Result — Back-to-original-size threads that permanently resist wear, corrosion, galling and stripping.

Heli-Coil Screw-Thread Inserts are available in all standard thread sizes in the economical SHOP-PACK Thread Repair Kit containing a large supply of inserts and all necessary installation tools. Write today for folder and name of your nearest Heli-Coil distributor. *Reg. U.S. Pat. Off.

HELI-COIL CORPORATION
3405 Shelter Rock Lane, Danbury, Conn.

In Canada: W. R. WATKINS CO., Ltd., 41 Kipling Ave., S. Toronto 18, Ont.

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5 reasons why you should specify T&B Sta-kon® Terminals

HIGH CONDUCTIVITY . . . Pure electrolytic copper tongue. Long stake mark assures large contact area for low resistance and low voltage drop.

TIGHT, SURE CONNECTIONS . . . Serrated tongue and barrel never relax grip on cable. Once staked, T&B Sta-kon Terminals are on to stay.

EASY TO INSTALL . . . without flame, heat or flux. A T&B Shure-Stake hand tool is all you need to stake terminal to cable . . . bench tools also available.

CORROSION RESISTANT . . . Cable and barrel are compressed into a solid mass. There are no voids to permit interior attack from corrosive agents or atmospheres.

AVAILABLE IN A COMPLETE LINE . . . Including "specials". Wire sizes 22 to 4/0. Varied tongue styles and stud sizes, with and without insulation.

For information on the complete line of T & B Sta-kon terminals send for your FREE copy of T & B Bulletin #82 today.

T 321

THE THOMAS & BETTS CO.
INCORPORATED
24 Butler Street, Elizabeth 1, New Jersey
THOMAS & BETTS LTD., MONTREAL, P. Q., CANADA

For more details circle NED-588 E9 on enclosed inquiry slip

Lewis Stack-n-Nest® TOTE PANS

IN SIZES TO HANDLE EVERY PRODUCT

16 x 10 x 5
18 x 12 x 6
18 x 12 x 8
22 x 14 x 8
22 x 17 x 10
27 x 16 x 11
39 x 19 x 14
34 x 24 x 19

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WITH ACCESSORIES FOR GREATEST VERSATILITY

PAN COVERS
• Molded of Fiberglass Reinforced Polyester in colors to match pans • Snug fit — keeps out dust and dirt • "Contour offset" for safe, high stacking of covered pans • Nest when not in use • Use as trays if desired • Popular sizes — fit the 22x14x8" and 27x16x11" Stack-n-Nest pans.

DOLLIES
• Molded of Fiberglass Reinforced Polyester in colors to match pans • Four heavy-duty, easy-rolling swivel casters • "Contour offset" for safe, secure stacking of pans • Quick, easy multiple handling and movement — loaded or empty • Rugged construction for big pay loads • Popular sizes — fit the 22x14x8" and 27x16x11" Stack-n-Nest pans.

G. B. Lewis COMPANY
Dept. NED
Watertown, Wisconsin

STACK-n-NEST PANS PATENTED
2,823,828 2,823,829

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- Choice of wheels — Rubber, Steel, or Plastic with plain bearing or roller bearing.
- Over 50 models and styles of two-wheel Hand Trucks — Platform Trucks and Special Fabrication.

Send for FREE CATALOG.

LANSING COMPANY, Lansing 3, Mich.
BRANCHES: BOSTON — MINNEAPOLIS

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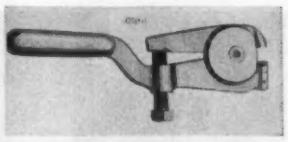
NUT REMOVING TOOL
splits off frozen, corroded nuts



Nuts frozen to bolts by rust or corrosion can be quickly split off without damage to bolt threads by this compact hand tool. It combines lever power with screw pressure to grasp and split all types of nuts on bolt sizes ¼ through ½ in. Heavy duty model handles ½ through 1-in. nuts. The forged, heat-treated steel tool has a swivel jaw which adjusts freely to cut from any angle and is easily removed for routine sharpening. Small and large models sell for $17.25 and $39.50, respectively. Made by **Doan Tool & Die Co.,** 14705 Saranac Rd., Cleveland 10, Ohio.

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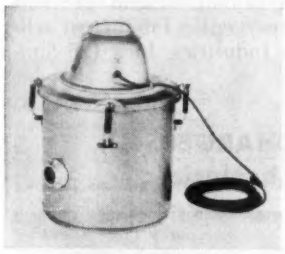
PORTABLE VACUUM CLEANER
develops 70 in. of wet-dry vacuum



Weighing 25 lb, the Stubby portable vacuum cleaner uses a ½-hp ac-dc motor to drive its multistage turbine type fans. It develops 70 in. of vacuum, wet or dry, and is quickly converted to blower action. Tank capacity is about ½ bu of dirt or 4 gal of water. Paper bags are used for convenient dirt disposal. Price, including 25 ft UL-approved cord, 10 ft of lightweight flexible plastic hose, and a radiator tool, is $96. Made by **Empire Chemical Products Co.,** Machine Div., 10 Longworth St., Newark 2, N. J.

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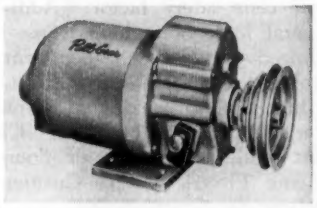
MOTORIZED SPEED REDUCER
for increasing machine capacities



Capacity of light-duty drill presses, lathes, boring mills, and similar belt-driven machines is extended for large reaming, tapping, or boring by this quick-change motorized speed reducer. It provides extra operating torque at reduced machine speeds. For instance, the single-unit reducer installed on a drill press with a five-step pulley and speeds from 2965 to 395 rpm will give the unit ten speeds from 2965 to 63 rpm. Increased range minimizes danger of burning cutting tools and allows working aluminum, cast iron, steel, plastics, and wood. Reduction ratios range from 6.25:1 to 1:1. Prices start at $179.50 for unit with ½-hp motor. Made by **Pull-Gear Co.,** 25425 Mound Rd., Warren, Mich.

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In many cases, you can quickly order the pump you need. Why? Because you can select from over 750 catalogued models and thousands of specials . . . in sizes from 2/3 to 1050 gallons per minute. You can save time and money buying from this one **complete** source!

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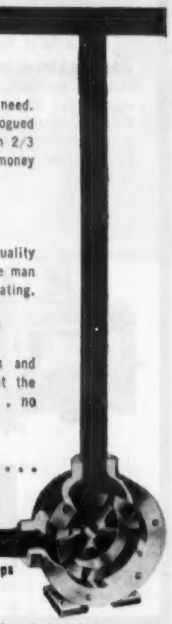
Every Viking Pump has quality built into it — quality that will save you many repair bills. Ask the service man how **he** rates Viking. You will find they have top rating.

ROTARY PUMP "KNOW HOW"

Engineers at Viking apply and think rotary pumps and **nothing but** rotary pumps. From them, you can get the best information on rotary pump applications . . . no half-way measures at Viking.

Send today for our 8-page folder on Viking Pumps . . . 595G.



VIKING PUMP COMPANY
Cedar Falls, Ia., U.S.A. In Canada, it's "ROTO-KING" pumps
See Our Catalog in Sweet's Plant Engineers File

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YOU CAN DO ANYTHING . . . WITH FLEXANGLE

You'll solve problems that look impossible . . . with FlexAngle.

- No drilling, welding, painting
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- Cut every ¾" with exact fits
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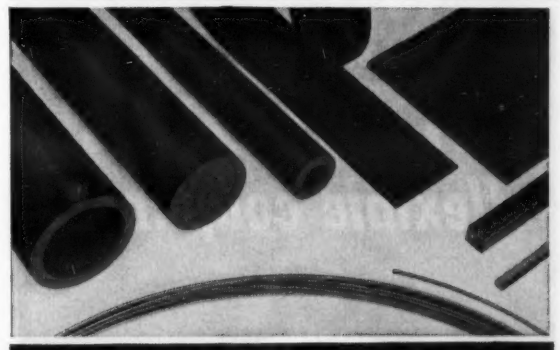

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Gives the property advantages of nylon, PLUS . . . improved mechanical characteristics:

- Greater Rigidity—higher modulus of elasticity, less deformation under load.
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NYLATRON GS, a molybdenum disulphide filled nylon*, is formulated to expand the field for nylon parts such as bearings, bushings, liners or other wear parts.

Stock shapes of NYLATRON GS include rod, strip, tubing, tubular bar and plate in all standard sizes—for rapid, low-cost fabrication on standard metalworking tools. In addition, it is available in powder form for molding.

Polymer can also supply stock shapes of all commercial nylons on request.

Write today for detailed information about NYLATRON GS—or other nylon formulations to meet your specific requirements.

*Patents applied for

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POLYPENCO Nylon, POLYPENCO Teflon†, NYLAFLOW® and NYLATRON® GS.
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POLYPENCO

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A unique new metal, ductile iron, gives these vises *extra* strength to resist cracking, *extra* toughness to take abuse, *extra* hardness to withstand heavy blows, *extra* rigidity for extreme accuracy and holding power. It reduces vibration, too—cuts scrap and tool breakage. These Skinner D-I-T vises will hold up longer in service and require far less maintenance.

A large trough guides coolant to return—keeps it from slopping over. A swivel base for setting vise at any angle through 360° is optional. Jaw capacities: 4", 5", 6", 7", 8".

Skinner Vises and Chucks are available nationally from leading Industrial Distributors, Machine Tool Builders and Dealers. For complete information, contact a Skinner Representative or write us at Dept. 565.

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THE CREST OF QUALITY THE SKINNER CHUCK COMPANY • NEW BRITAIN, CONNECTICUT

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Eliminate breakdowns
Save floor damage

Send for new Colson catalog C101 . . . contains over 2000 job rated test proven money saving Casters.

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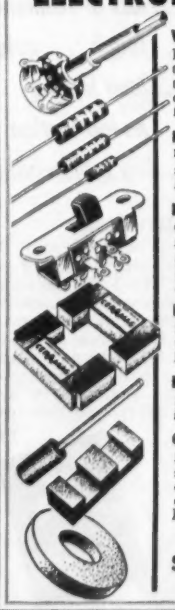
Dependable ELECTRICAL-ELECTRONIC COMPONENTS



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Dozens of standard composition-element types including single and dual concentric shafts and midgets for transistorized circuits. Choice of 9 switch types. Write for Bulletin RC-10B.

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½-, 1- and 2-watt composition types in all standard RETMA ranges. Packaged in strips, stacked layers or reels.

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Electronics Components Division
STACKPOLE CARBON CO.,
St. Marys, Pa.

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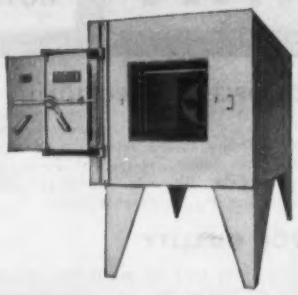

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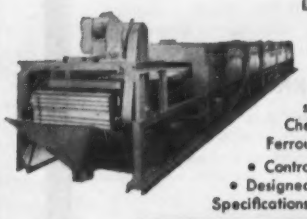

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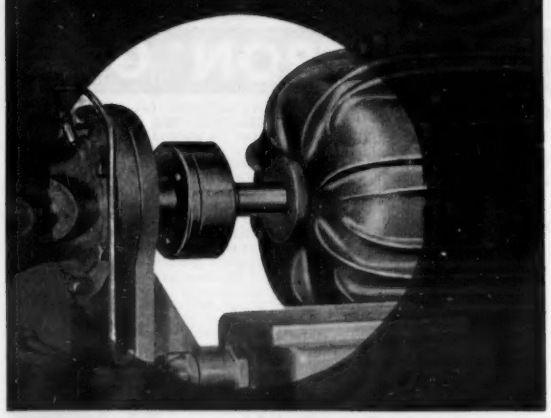
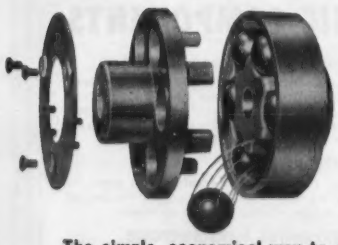
ELLIOTT

flexible couplings



6 RUBBER OR NEOPRENE BALLS

- neutralize misalignment
- absorb shock loads
- stand up to driving stresses



. . . lots of resiliency
. . . tough . . . quiet
. . . long lasting
. . . no lubrication
. . . low maintenance

The simple, economical way to assure smooth flow of power. Rubber or neoprene balls transmit the power, have the proper "give" to absorb shock loading and neutralize all types of misalignments. The balls are tough and long-lived . . . can be replaced easily and quickly if ever necessary. Either the driver or the driven apparatus can be run separately by removing balls. No metal-to-metal contact insures quiet operation. One company using 133 Elliott couplings since 1955 has had no operating difficulties nor any ball replacements. Available in nine sizes, suitable for speeds ranging from 1200 rpm to 3500 rpm.

Y8-2

Write for complete Data

ELLIOTT Company

LAGONDA PLANT, SPRINGFIELD, OHIO

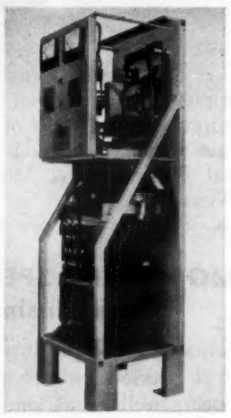
▲ For more details circle **NED-601 E9** on enclosed inquiry slip ▲

RESUSCITATOR is mouth-to-mask type

Advantages of widely approved mouth-to-mouth resuscitation without objectionable intimate contact is provided by the M/M Mouth-to-Mask resuscitator. Valve in the oronasal face mask allows passage of air only from rescuer to the victim. The first air which victim receives in each breathing cycle contains the full oxygen content of surrounding air. At no time is patient's breath inhaled by the operator. Rescuer remains far enough away from patient to monitor chest movement and color of lips without interrupting rhythm of breathing. Rebreathing system prevents hyperventilation (too much oxygen). Equipment sells for $34.50. Made by **Globe Industries, Inc.**, 125 Sunrise Place, Dayton 7, Ohio.

▲ For more details circle **NED-602 E9** on enclosed inquiry slip ▲

SILICON BATTERY CHARGERS for 10 to 63-cell batteries



Lead-acid, nickel-alkaline, and nickel-cadmium batteries can be charged with Magnistrol silicon battery chargers. The single phase units handle 10 to 63-cell batteries in five basic amperage capacities and three voltage ranges. Three - phase input chargers are available for large capacity installations. Chargers have hermetically sealed, nonaging silicon diodes operating with a minimum 100 per cent safety factor. Additional features include transistorized control, ±1 per cent voltage regulation, current limiting, and no peaking of output voltage after the battery is up to full charge. Charger line is available for wall, relay rack, or floor mounting. Made by **Acme Electric Corp.**, Custom Equipment Div., 310 Water St., Cuba, N. Y.

▲ For more details circle **NED-603 E9** on enclosed inquiry slip ▲

Radioactivity Measuring Instruments

Nuclear-Chicago Corp.—Over 125 pieces of equipment for detecting, counting, and recording radioactivity are described in illustrated 76-page General Catalog R. Sections are devoted to nuclear training devices, scales, ratemeters, a gamma-ray spectrometer system, Geiger and scintillation detectors, portable meters, radioactive sources and chemicals, and nuclear accessories.

▲ For more details circle **NED-604 E9** on enclosed inquiry slip ▲

Bending Sheet Metal

single pieces or quantity runs

CHICAGO® HAND BENDING BRAKES

Standard **HAND BRAKES**

•

Universal **BOX and PAN BRAKES**

Both the standard hand brakes and the universal box and pan brakes are available in a wide range of standard sizes. Each features all-steel rugged construction, one-man operation, and quick adjustments.

For Full Details—Ask for Bulletin 55-HB

6781

CHICAGO DREIS & KRUMP — Press Brakes • Straight-Side-Type Presses • Press Brake Dies • Hand and Power Bending Brakes • Special Metal-Forming Machines

DREIS & KRUMP MFG. CO.

7436 South Loomis Boulevard, Chicago 36, Illinois

▲ For more details circle **NED-605 E9** on enclosed inquiry slip ▲

FULL CONE—HOLLOW CONE—FLAT SPRAY

Spraco has the most complete line of nozzles available anywhere — **IN STOCK.** Capacities range from 1/8 pint /min. to 4000 gal. /min. Bronze, cast iron, and stainless steel. Write for our nozzle catalog.

SPRAY ENGINEERING CO., *106 Cambridge St., Burlington, Mass.*

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NEW METAL EDGE FILTER CATALOG...

For filtration from 25 microns up with almost no maintenance at all, you can select Purolator metal edge filters made of all common metals and alloys with flows from 1 to 1000 GPM. They will withstand temperature extremes from −260° F. to 1200° F. and differential pressure to 125 PSI. Their metal edge elements provide a thin-walled, rugged medium with a lower initial pressure drop, higher flow and complete utilization of surface area. They can be cleaned almost indefinitely — with knife blades (manual or motorized), or by backwashing. Write for *free* catalog today to:

PUROLATOR PRODUCTS, INC.

RAHWAY, NEW JERSEY AND TORONTO, CANADA

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SUPEREAM

REAMERS IN DECIMAL SIZES

470 REAMERS ARE CARRIED IN STOCK VARIATIONS OF .001

▼ **Sizes from .032, .033, .034, .035, .036, etc., all the way up to .501. Any size required larger than .501 . . . blanks can be ground to your exacting specifications, delivered in 3 or 4 days. By purchasing SUPEREAM Reamers in steps of .001 you SAVE time, labor and money in the cost of extra machining and lapping.**

▼ **SUPEREAM Reamers all have ground and polished flutes and are held within .0002 tolerance. Reamers are also furnished in Right-hand spiral, Right-hand cut, as well as Left-hand spiral, Right-hand cut. These are delivered in 3 to 4 days.**

Write for descriptive literature and prices

Twentieth Century Mfg. Co.
Box 429-NED Libertyville, Ill.
Phone Libertyville 2-4200

▲ For more details circle **NED-608 E9** on enclosed inquiry slip ▲

with
countr-bor®
Screws

Tighter wrenching. No special tools needed. Fits flush in standard counterbored holes. Improves product appearance.

Save up to 20% on the screws alone and get greater holding strength.

Send for literature and samples of the sizes you wish to try.

FERRY CAP & Set Screw Company
2193 Scranton Road • Cleveland 13, Ohio

For more details circle NED-609 E9 on enclosed inquiry slip

A COMPLETE LINE OF
ROLLER CONVEYERS
ENGINEERED AND STANDARDIZED BY
MATHEWS

The Mathews line of roller conveyer is complete, with rollers ranging from 1⅜" to 6½" in diameter, and with capacities from 60 lbs. to 13,000 lbs. High quality ball bearings are used throughout.

Accessories such as turntables, hinges and switches are available from stock.

A full line of couplings and supports makes the installation of Mathews Roller Conveyer lines convenient and easy.

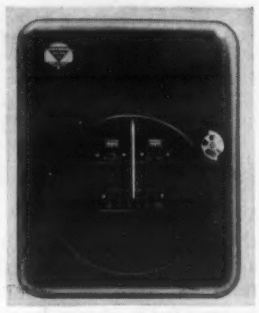
For latest information write for Catalog 158

MATHEWS CONVEYER COMPANY
GENERAL OFFICES . . . . . ELLWOOD CITY, PENNSYLVANIA
PACIFIC COAST DIV. . . . MATHEWS CONVEYER COMPANY WEST COAST, SAN CARLOS, CALIFORNIA
CANADIAN DIVISION . MATHEWS CONVEYER COMPANY, LTD., PORT HOPE, ONTARIO.

MATHEWS
Over Fifty Years of Leadership in Mechanized Handling

For more details circle NED-610 E9 on enclosed inquiry slip

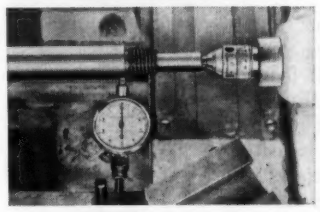
BTU METER can be 10 ft from flow gage



Model 200 Btu meter accounts for refrigeration or heating furnished by central air conditioning systems using chilled or hot water. It multiplies temperature change of the water by the flow, and two counters register the heat transferred and the water flow. Indication of differential temperature is provided. Meter can be located up to 10 ft from the flow measuring element. Any water volume above 0.25 gpm can be metered. Prices start at $550. Made by **American Meter Co.**, Mechanical Components Dept., Box 306, Garland, Tex.

For more details circle NED-611 E9 on enclosed inquiry slip

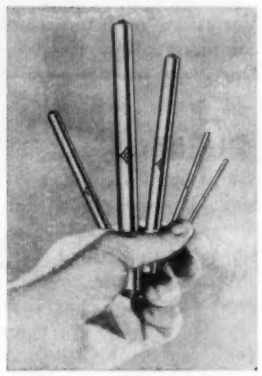
ADJUSTABLE CENTER speeds alignment on lathes



Quick, easy center alignment on old or new lathes is made possible by the Micro Set adjustable center. Corrective movement of the work held between headstock and center is accomplished by an eccentric ground sleeve and arbor which produce lateral movement of the tip in increments of 0.001 in. Total tip movement in either direction is 0.006 in. Center is available in No. 2, 3, and 4 Morse tapers, with others being available soon. Made by **Enco Mfg. Co.**, 4520 W. Fullerton Ave., Chicago 39, Ill.

For more details circle NED-612 E9 on enclosed inquiry slip

HIGH SPEED DRILL BLANKS for making boring tools, tool bits



Fractional sizes from 1/64 to ½ in., wire gage sizes from No. 80 to No. 1, and letter sizes from A to Z are offered in Mo-Max high speed hardened and ground drill blanks. List No. 902 blanks are ground to oversize reamer tolerance of +0.0002 in., −0.0000 in., whereas No. 903 blanks are ground to undersize drill tolerance within +0.0000 in., −0.0003 in. Ends have 118-degree included-point centers. Blanks are used for making boring and burring tools, countersinks, dowel pins, drift pins, punches, and tool bits. Made by **Cleveland Twist Drill Co.**, 1242 E. 49th St., Cleveland 14, Ohio.

For more details circle NED-613 E9 on enclosed inquiry slip

NEW Model 1-A SEVER-ALL CUTS AT 3 to 6 SECONDS PER SQ.IN.—ECONOMICALLY

- New abrasive cutting machine priced at less than $500
- Wheel oscillation provides capacity up to 2" square solids, 3½" O.D. pipe and tubing, 3" angle iron, 4" channels
- Gives clean, smooth cuts on large or small sections
- Cuts cold rolled, stainless, and alloyed steel; cast iron; non-ferrous metals
- Little or no set-up time required
- Just two wheels for all SEVER-ALL cutting jobs
- Available from distributors

Write FOR BULLETIN DH-106
ALLISON-CAMPBELL DIVISION
AMERICAN CHAIN & CABLE
930-S Connecticut Avenue, Bridgeport 2, Conn.
ACCO

For more details circle NED-614 E9 on enclosed inquiry slip

8 TYPES

Eight *standard* types that is—which means you can get exactly the jib crane best suited for your particular jobs . . . at lowest possible cost!

Tell us your requirements and we'll make suggestions for most economical application!

Ask for CATALOG J-114

ABELL-HOWE COMPANY
7747 W. VAN BUREN ST.
FOREST PARK, ILL.

For more details circle NED-615 E9 on enclosed inquiry slip

NEW CESCO Hed-Rite Headgear
—a Premium Quality Headgear at No Increase in Price

- BROAD BEARING, PIVOTING CROSS STRAP, with concealed height adjustment
- NON-SLIP, NON-STRIPPING RATCHET adjustment for head size
- NYLANITE CONSTRUCTION, non-shrinking, non-warping
- 20% to 25% LIGHTER than previous headgears
- CAMBERED HEADBAND with offset rear strap
- EBONY FINISH resists degeneration by Ultra-Violet rays
- NO RIVETS, NO EXPOSED METAL—cannot snag hair
- INTERCHANGEABLE WITH HARD HATS. Snaps on or off in seconds

The Hed-Rite headgear may be worn with any face shield, helmet, hood or goggle equipped with CESCO X-12 brackets. Headgear is instantly detachable from helmet or shield without the use of tools. There is no electrical conductor between the interior of the headgear and the exterior of the shield or helmet.

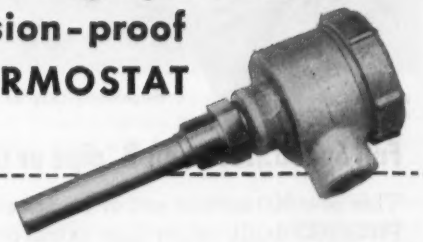
See your CESCO distributor or write for FREE descriptive folder

CESCO FOR SAFETY

CHICAGO EYE SHIELD COMPANY
2715 W. Roscoe St., Chicago 18, Illinois

For more details circle NED-616 E9 on enclosed inquiry slip

NEW highly-versatile explosion-proof THERMOSTAT



Simple to install in tank, wall, or contaminated environments, the new Fenwal Series 80016-4 THERMOSWITCH® Assembly provides instant response and precise control for hundreds of applications where explosive conditions exist.

Completely adjustable over ranges of 32 to 400°F, or 100 to 500°F, it can be undershot to −100°F for infinitely long periods, overshot to +100°F above its set point for brief periods. 3-pc. assembly includes: Series 47000 Cartridge Type THERMOSWITCH unit; stainless steel protective well with standard pipe threads for mounting purposes; explosion-proof junction box. Provides all the "regular" advantages of THERMOSWITCH units such as high sensitivity and load-carrying capacity, low thermal lag, smooth performance under shock and vibration. Rating: 10 amps, 115 VAC or 5 amps, 230 VAC. UL approved for Class 1, Group D areas. For further information write Fenwal Incorporated, 275 Pleasant Street, Ashland, Massachusetts.

ANOTHER EXAMPLE OF HOW **Fenwal** Controls Temperature . . . Precisely

For more details circle NED-617 E9 on enclosed inquiry slip

Pratt & Whitney Co., Inc., West Hartford, Conn.

SPENCER VACUUM

Dirt, metal chips, even dust pose a problem wherever precision is paramount.

That's why, in areas like this constant temperature jig borer room, Spencer installed vacuum systems are used constantly to clean machines as well as floors.

Whether *your* need is protecting precision output or assuring convenience and economy in routine maintenance, it will pay to check with Spencer.

Request Catalog #155B.

ALSO MANUFACTURERS OF INDUSTRIAL PORTABLE VACUUM CLEANERS.

The SPENCER TURBINE COMPANY HARTFORD 6, CONNECTICUT

▲ For more details circle NED-625 E9 on enclosed inquiry slip ▲

Cut and Thread Pipe by Hand?

...not me or my men when I can get the new tough fast little

RIDGID 300 Power Drive

For Only $199.50

*Subject to change without notice.

Pats. Applied For

Weighs only 79½ lbs.—all metal!

Full Speed...even on 2" pipe or conduit

This new 300 is clear out of its price class! Its RIDGID-built motor has extra power and extra-long brush life . . . heavy-duty bump-proof switch . . . RIDGID Speed Chuck with guaranteed tight grip, forward, reverse, replaceable jaw inserts and all-metal hand wheel ...2 extra-strong tool support bars . . . and a lot of other features that make it far the most for your money. You can't afford to be without it—see and try the new 300 at your Supply House!

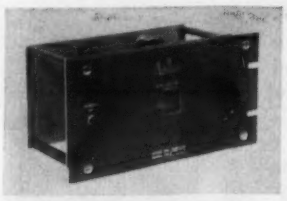
No. 1206 Stand for RIDGID 300 *Price $27.00

The Ridge Tool Company Elyria, Ohio, U.S.A.

THREADED PIPE... It's Tight... It's Best... Costs Less!

▲ For more details circle NED-626 E9 on enclosed inquiry slip ▲

SYNCHRO SIMULATOR
selects up to 72 preset angles



Three-wire synchro signals with less than 3 min of error are provided by the Model 0003-003 synchro simulator. Up to 72 preset angles may be selected by the easily operated front panel control. With its optional built-in detector and error indicator, the simulator will accurately test servo components and systems. Variety of packages and circuit variations is offered with the instrument, suited for laboratory, field, or production test use. Made by **Winthrop Industries**, Electronics Div., 75 Winthrop St., Newark, N. J.

▲ For more details circle NED-627 E9 on enclosed inquiry slip ▲

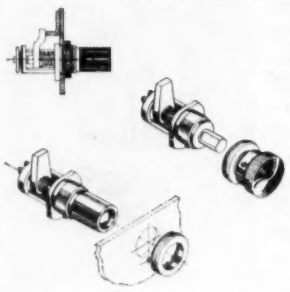
REVERSIBLE TAPPING ATTACHMENT
has hand-adjusted torque clutch

Added to the S.P.V. line of tapping tools is this reversing tapping attachment, SAR-100. It features a hand-adjusted torque clutch and cuts consistently perfect threads. Tap breakage, operator sensitivity, lead errors, and rejects are minimized. When over-running clutch is disengaged, no force is placed on the tap. Axial movement is friction-free, using tap itself as leadscrew. Available from **Homestrand, Inc.**, 9 Addison St., Larchmont, N. Y.

▲ For more details circle NED-628 E9 on enclosed inquiry slip ▲

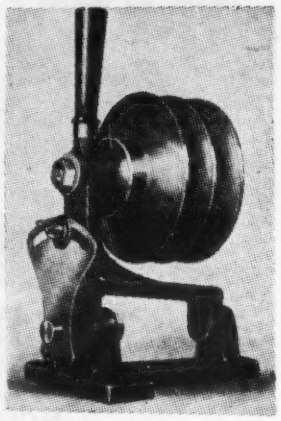
PAWL FASTENER
supplied for three frame thicknesses

Variations in frame thickness up to ¼ in. can be accommodated by the No. 48 adjustable pawl fastener. One 9/16-in. diameter hole takes the fastener shaft, and a 0.082-in. diameter hole receives a stop pin on the fastener to prevent it from rotating. Continued rotation of the plastic and steel knob increases applied pressure. Three types for frame thicknesses up to ¼ in., from ¼ to ½ in., and from ½ to ¾ in. are offered with two knob styles. Fastener can also have a flatted shaft to receive any knob with a ¼-in. hole. Made by **South Chester Corp.**, Southco Div., 200 Industrial Highway, Lester, Pa.



▲ For more details circle NED-629 E9 on enclosed inquiry slip ▲

VARIABLE SPEED CONTROL

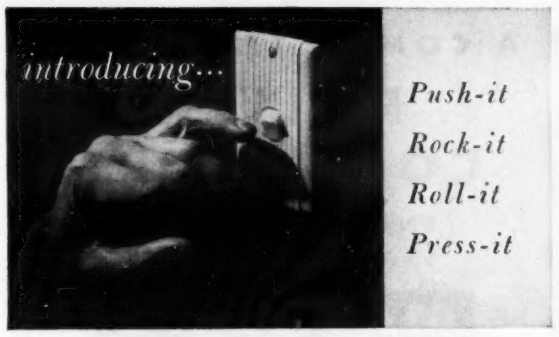


Variable speed control of V-belt and equipment up to a maximum 3 to 1 ratio is provided by this single lever controlled unit. Mechanically simple in design and sturdily constructed to withstand hardest service, models 1A and 2A Toledo variable speed controls have numerous unique features including: plain, smooth pulley, eliminating noise and vibration; stepless speed variation up to full 3 to 1 ratio; minimum pulley diameters are increased to transmit greater H.P. over entire range; new pulley design providing cylindrical bottom for V-belts which fixes minimum pitch diameter, preventing damage to belts and giving increased torque; single arm support, for easy belt application; large shaft, oilite bearings and lubricant reservoir; sector plate serving as dial indicator and additional locking medium; unusually attractive prices.

Wheel assemblies can also be purchased without mountings for application on machines providing built-in speed control.

If you have a variable speed control problem, either on plant equipment or on machinery you build for sale, investigate the Toledo variable speed control . . . you'll be interested in its efficiency and low price. Ratios as high as 10 to 1 are available. **The Toledo Timer Co.**, 2224 Albion St., Toledo, O. Adv.

▲ For more details circle NED-631 E9 on enclosed inquiry slip ▲



THE ALL-NEW P&S ROCKER-GLO SWITCH

...the switch that *looks* right, *feels* right and *is* right for every type of wiring job.

Here is the one switch with the most wanted features on the market today.

The merest touch causes instant, silent action... and Rocker-Glo glows in the dark.

Available in Despard and narrow rocker types.

Write for brochure. Dept. NED 559

PASS & SEYMOUR, INC.
SYRACUSE 9, NEW YORK
60 E. 42nd St., New York 17, N. Y. 1440 N. Pulaski Rd., Chicago 51, Ill.
In Canada: Renfrew Electric Limited, Renfrew, Ontario

▲ For more details circle NED-632 E9 on enclosed inquiry slip ▲

THE ONLY FIXTURE SPECIFICALLY DESIGNED FOR CORRECT SHELF *and* BIN ILLUMINATION

Fill Orders Faster, More Accurately With The

APPLETON® STOCKLITE

End spotty, harsh, eye-tiring lighting once and for all! Install *Appleton Stocklites* . . . special fixtures that wipe away murky gloom, and let you read labels, small parts numbers, order slips . . . *all the way* from top bin to floor level. The novel shape does the trick . . . prevents wasted light, assures even diffusion, reduces eye fatigue and speeds up order filling with fewer errors. *Stocklites* are attractive, distinctive, permanent fixtures finished entirely in white, vitreous-fired porcelain enamel . . . easily installed, quickly cleaned and extremely corrosion resistant. Inquire now. See how *Appleton Stocklites* give more light, better light from your present lamp wattages.

Also Manufacturers of:

REFLECTORS EASILY REMOVED and CLEANED
4 Mounting Styles

Seprable design—no tools needed. Four mountings: pendant, right angle, feed-thru and outlet-box with Seprable keyless or pull-chain sockets . . . ¼ turn release and spring-cushioned for firm contact, longer life. Take 5 standard lamps—50 to 200 Watts.

Sold Through Franchised Distributors Only

APPLETON ELECTRIC COMPANY • 1729 Wellington Avenue • Chicago 13, Illinois

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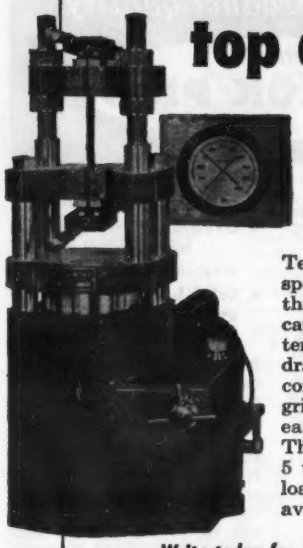
Tensile test with top accuracy



Use this simple hydraulically powered fast-acting tester

Test the tensile strength of spotwelds, strip, wire, anything within its 20,000 lb. capacity. The Model ST-1 tensile tester has a hydraulically powered, easily controlled ram. Self-acting grips are open-sided for easy specimen insertion. They will accept specimens 5 to 9" in length. Various load gauges and grips are available.

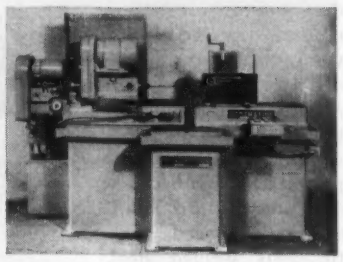
Write today for more information

DETROIT TESTING MACHINE COMPANY

9394 Grinnell Avenue, Detroit 13, Michigan

▲ For more details circle **NED-633 E9** on enclosed inquiry slip ▲

GUN BORING MACHINE
hole finish and size accuracy eliminates secondary operations



Precision feed unit of this Boremation gun boring machine assures excellent hole finish with high degree of alignment accuracy. Need for secondary drilling, boring, reaming, and honing operations is eliminated. Feeds are infinitely adjustable from ½ to 30 ipm, and spindle speeds range from 100 to 10,000 rpm. Both 12-in. stroke Model 1200 and 24-in. stroke Model 2400 will maintain tolerances as close as 0.0001 in. in deep hole drilling.

Machine is equally adaptable for high production short-hole drilling, maintaining desired hole tolerances in one pass. Hole depths can be repeated within 0.001 in. using a mechanical stop attachment. Standard models have hardened and ground ways. Made by **Drillmation Co.**, 6500 E. 11 Mile Rd., Center Line, Mich.

▲ For more details circle **NED-636 E9** on enclosed inquiry slip ▲

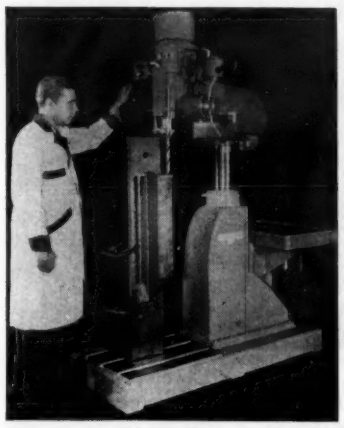
Coffing Quik-Lift Electric Hoist... 20 models from 1/4 to 2 tons

The new Coffing Quik-Lift coil chain electric hoist is easy to operate and light to handle. The aluminum housing is in sections for quick access to change voltages, limit switch, type of suspension or chain. The pistol-grip, push-button control permits up or down operation while pulling trolley mounted hoists. V-type brake gives maximum braking surface. Lubrication is sealed in for life.

For details consult your Coffing Hoist Distributor or write for Catalog ADH-65. **Coffing Hoist Division of Duff-Norton Company, 803 Walter St., Danville, Ill.**

▲ For more details circle **NED-638 E9** on enclosed inquiry slip ▲

RADIAL DRILLS
improved 1, 2, and 3-hp models swing a 4 x 5-ft workpiece

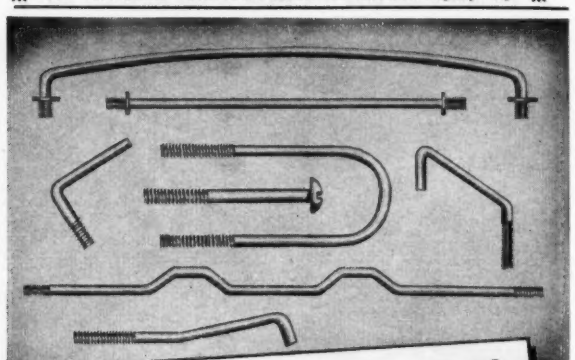


Two work stations, accessible through 360-degree rotation of the ram, and a 21½ x 24-in. rear work platform for tall workpieces are improvements in this line of precision radial drilling machines. Both range and capacity of the 1, 2, and 3-hp models have been increased.

Adjustable front table is offered in 20 x 28 and 20 x 40-in. sizes, both with three-T-slots and a coolant trough. Sliding radial arm moves to within 5 in. of the column or out to drill to the center of a 5-ft circle. Vertical column movement permits a maximum of 53 in. from spindle to working surface, and a 3½-in. minimum.

All controls are to the left of the drilling head, regardless of drill head position. Direct gear drive provides eight spindle speeds from 60 to 2400 rpm. Drill capacity is 1¾ in. in cast iron. The No. 4 Morse taper spindle travels 6 in. Made by **I. O. Johansson Co.**, 7730 Austin Ave., Skokie, Ill.

▲ For more details circle **NED-637 E9** on enclosed inquiry slip ▲



Looking for something special ...for a particular application?

...rely on Ohio Rod Products for—

SERVICE—QUALITY—UNIFORMITY

OHIO ROD makes Special Headed and/or Threaded Fasteners in short and long length — in short or long runs. Headed, Threaded, Collared, Bent, or Offset.

Send drawings or blueprints for quotes and literature.

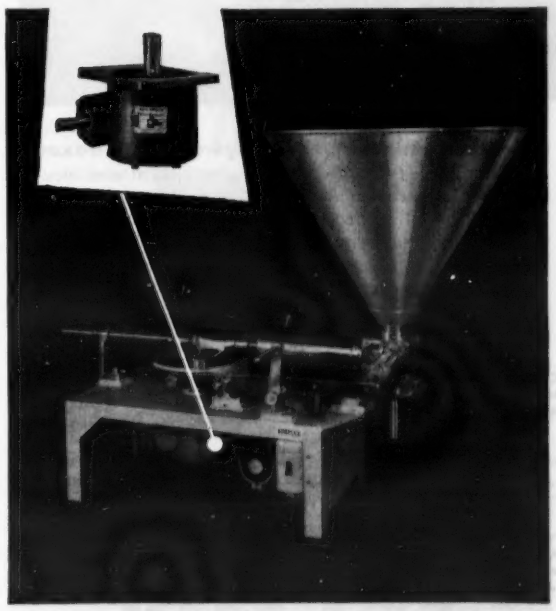
OHIO ROD PRODUCTS CO., INC.

20254 1st AVENUE • BEREA, OHIO

▲ For more details circle **NED-634 E9** on enclosed inquiry slip ▲

Winsmith speed reducers help simplex piston fillers

pack semi-solids in a hurry!



• Simplex Table Model "A" Piston Filler, driven by Winsmith "CV" Single Reduction Worm Gear Reducer of 60:1 ratio. Drive motor is ¼ h.p. 1750 rpm, single phase.

SIMPLEX PISTON FILLERS are "force-feeding" semi-solids into containers at profitable speeds in hundreds of food packing and process plants. Manufactured by F. L. Burt Co., San Francisco, they are cycled to necessary precision by Winsmith Speed Reducers.

WHY WINSMITH? Says President F. L. Burt: *"Winsmith was the first company with a wide range of sizes to fit our needs from stock."* This includes outputs from 1/100 h.p. to 85 h.p. in ratios from 1.1:1 through 50,000:1 in full choice of shaft and mounting arrangements — such a complete selection that you're practically getting "custom" units from standardized stocks! Other big advantages of designing Winsmith Speed Reducers into your product are high output efficiency — maximum torque for the size of the package — dependability established over half a century.

WRITE TODAY for Catalogs 155 and SM 57. See the "extras" that are standard in the Winsmith line!

WINSMITH SPEED REDUCERS

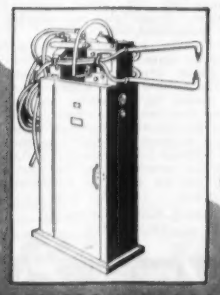
WINSMITH, INC.

119 Eaton Street, Springville, (Erie County), N. Y.

▲ For more details circle **NED-639 E9** on enclosed inquiry slip ▲

HANDY... any way you look at it

Ball bearing suspension ring takes all the weight and much of the work out of welding with a Miller MPS water-cooled portable spot welder. Choice of manual or air operated models, all with timers. 6" tongs secure work with pressure to 600 pounds. Model MPS-10-KVA weighs 79 lbs., welds up to 3/16" thickness; model MPS-20-KVA, 91 lbs., handles material to 1/4"; air operated models average 53 lbs. more. Wide choice of tongs.



Steel pedestals are available for both models.

miller ELECTRIC MANUFACTURING COMPANY, INC.

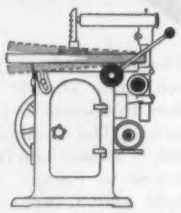
APPLETON, WISCONSIN

distributed in Canada by CANADIAN LIQUID AIR CO., LTD., Montreal

▲ For more details circle **NED-635 E9** on enclosed inquiry slip ▲

WITH **DAVIS** KEYSEATERS!

You can cut accurate, low-cost internal keyways at *minimum* cost with Davis Keyseaters. Here's why: (1) operation is designed for production *speed;* (2) machine sets up easily, does *not* require skilled operator; (3) maximum concentricity of the keyway in each bore assured; (4) Built in 2 sizes. Keyways range from $\frac{1}{16}$" to 1". High speed steel cutters stocked in all sizes; (5) the *best* keyseater of its type, yet *inexpensive!* Write now for FREE DETAILED LITERATURE!



Tilting table sets easily for tapered keyways up to 3" per foot.

DAVIS KEYSEATER COMPANY
DIVISION OF *Hansford* MANUFACTURING CORPORATION
1237E UNIVERSITY AVE., ROCHESTER 7, NEW YORK

▲ For more details circle **NED-640 E9** on enclosed inquiry slip ▲

CUT COSTS with FIR PLYWOOD

Switch from metal to fir plywood tote boxes has eliminated damage to precision optical and electrical parts at Bell & Howell—and also maintained efficient handling procedures set up by plant process engineers. The new nail-glued plywood boxes are light, strong and durable—and the wood has enough resilience to prevent damage to delicate parts. At one point, boxes travel through de-greasing bath without harm. Over 50,000 are now in use.

Only plywood with DFPA grade-trademarks is made and tested under industry-wide Douglas Fir Plywood Association quality control program. Look for letters DFPA on the panel.

DFPA TESTED QUALITY

Write for New File Folder Catalog

DOUGLAS FIR PLYWOOD ASSOC., DEPT. 181, TACOMA 2, WASH.

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the exclusive

FLEX-A-FOAM
DUST MASK
(no other product like it . . . anywhere)

Here's everything that management and worker alike could possibly want in a dust respirator!

1. **Form-fitting design:** Self-adjusting to any size and shape of face without pressure or irritating discomfort.
2. **Attractive styling:** Smartly designed to suit the most discriminating wearer.
3. **Filtering efficiency:** Filters non-toxic dusts 100 times smaller than the eye can see.
4. **Easy-breathing comfort:** Easier to breathe through and talk through than an ordinary pocket handkerchief.
5. **Feather-like weight:** Weighs only 1 ounce complete.
6. **Simplicity and economy:** Only 4 tough, long-wearing inter-locking parts — all washable. Pure latex filter outwears throw-away type more than 100 to 1.

No wonder FLEX-A-FOAM is the one dust respirator workers welcome and WEAR!

Sample only $1.45 postpaid (Industrial price only)

FLEX-A-FOAM® DUST MASK

FLEXO PRODUCTS, INC. • Westlake, Ohio

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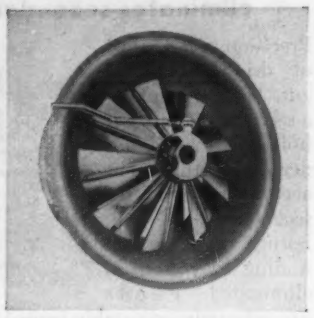
MECHANICAL DRAFT FANS
feature forward curved blades

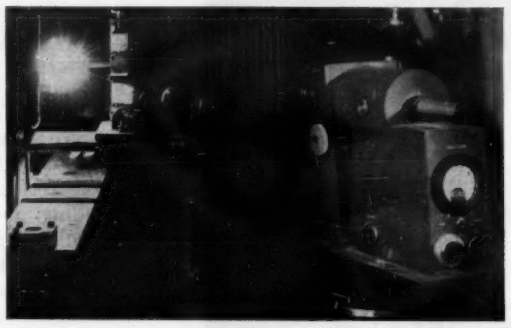


Designed for heavy duty induced draft operation, this line of forward curved mechanical draft fans provides a high air-movement-to-size ratio. Blades are mild or alloy steel, depending upon duty, and housings are built of rigidly braced, continuously welded steel plate. Quiet rotors operate at low peripheral speed, and streamlined inlets direct air into the rotor with a minimum of turbulence. Inlet vane controls may be manual or automatic. Movable vanes spin incoming air in the direction of the wheel's rotation and, by changing the spin, fan output can be varied. Outlet dampers can be supplied. Sixteen wheel diameters and outlet duct sizes from 18 to 77 in. are offered in two speed ranges. Fans may be used with direct motor connections. Made by **Chicago Blower Corp.**, 9867 Pacific Ave., Franklin Park, Ill.

▲ For more details circle **NED-643 E9** on enclosed inquiry slip ▲

RECORDING PYROMETER
accurate over 1400-3000° C range and can be operated unattended

Accurate measurements of sample brightness temperatures within ±20° C, made in a ⅜-in. diameter area and a 1400 to 3000° C range, are possible with the



Auto-Optic recording pyrometer. Developed to measure surface temperatures of materials exposed to a 10,000° C electric arc air heater, it can be operated unattended under hazardous conditions.

A recorder may be plugged into the pyrometer to provide a record of temperature vs. time. The radiation sensitive element is a high vacuum phototube. Output can be read on the built-in meter or from an external recorder. Calibration is by comparing the output with the known brightness temperature of a standard tungsten lamp. Made by **Avco Mfg. Corp.**, Avco Research & Advanced Development Div., 201 Lowell St., Wilmington, Mass.

▲ For more details circle **NED-644 E9** on enclosed inquiry slip ▲

STOP FIRES FROM CARELESS SMOKING WITH SIPCO DUNKING STATIONS

Canister extends only 5½" from mounting surface.

Thousands of businesses, Industries and Institutions have discovered that SIPCO DUNKING STATIONS not only eliminate fire hazards from smoking, but also prevent litter, thus greatly reducing cleanup time.

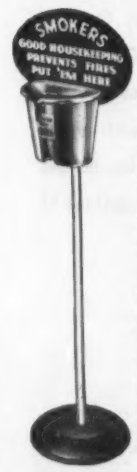
Heavy duty cast aluminum canisters guaranteed 3 years against breakage. Over 20 different models. Standard and Jumbo sizes. Wall models, Floor models and permanent mounting models. Grey crinkle or bright polished models. With or without message signs and decals. Special colors, signs or decals on special order.

SIPCO DUNKING STATIONS are designed to be partly filled with water. "Smokes" dropped in the large top hole are OUT FOR GOOD —NO SMOULDERING—NO ODORS—NO UNSANITARY CONDITIONS. Lift off the canister or lift out an inner-liner, dump it and the cleaning job is done.

MODEL 4J: For permanent mounting on walls, posts, columns, etc., in public areas. Eliminates pilfering problem. Bright polished JUMBO canister furnished with glass-fiber innerliner.

MODEL 1JD: Jumbo size deluxe floor model. Heavy weighted base and eye catching sign. Height 38", Wt. 26 lb. Ideal for halls, aisles, landings, etc.

MODEL 5: New INEXPENSIVE open top model for mounting on machines, benches, etc., where it will be at the workers fingertips. Grey crinkle finished standard size canister without lid. Husky coil spring holds the "smoke". Ideal for plants with an on the job smoking program.



Model 1JD

Model 4J

Model 5

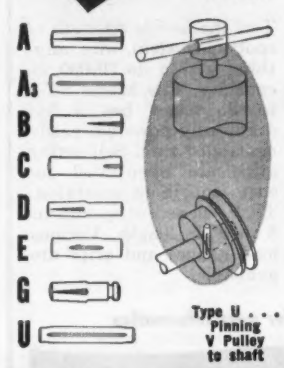
WRITE FOR ILLUSTRATED BROCHURES

STANDARD INDUSTRIAL PRODUCTS CO.
DEPT. D • 3527 FARMINGTON RD. • PEORIA, ILLINOIS

▲ For more details circle **NED-645 E9** on enclosed inquiry slip ▲

REDUCE *costs...*
INCREASE *product quality...*
WITH
DRIV-LOK PINS

STANDARD TYPES



- **Fast installation . . . drill a hole and drive it in**
- **Greater holding power . . . once installed they *stay in***
- **Solid body . . . greater strength, better appearance**

DRIV-LOK Grooved Fasteners have been proven in thousands of applications . . . are saving time and labor wherever they're used. 8 standard types — many specials. Wide variety of materials. Prompt deliveries, competitive prices. Write us, giving the nature of your fastening application. We'll recommend and send samples. No obligation, of course. Write for complete Driv-Lok Catalog

DRIV-LOK SALES CORPORATION
717 Park Avenue • Sycamore, Illinois

▲ For more details circle **NED-646 E9** on enclosed inquiry slip ▲

Model F1A Phil-Dump

Sturdy and Dependable for Dumping and Storing

Solidly built to take a beating when used with a platform or a fork lift truck, the F1A Phil-Dump saves time and money in the handling of a variety of bulk materials. This low-cost device dumps automatically and returns to upright locked position. It stacks easily and safely for storage either full or empty. Features are a non-slip fork slot in the pallet and a patented safety lock which prevents accidental dumping. Capacity is 1 cu. yd. Larger and smaller Phil-Dumps are available. Write for prices.

Ask about Salem-Brosius transfer cars

Write for information about Salem-Brosius industrial trailers

SALEM-BROSIUS, INC.
16 Arch Street • Carnegie, Pa.

PHILLIPS MATERIALS-HANDLING EQUIPMENT

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ARMSTRONG
Drop Forged CLAMPS

LEADERS IN THE DROP FORGED CLAMP FIELD

. . . in design, machining and strength; in completeness of line in both sizes and types.

Designs are based on a full knowledge of clamp uses and requisites. Drop forging assures die-perfect form, texture toughness and freedom from structural faults. Maximum stiffness is attained by a discerning selection of steels with accurate controlled heat-treating, tempering and testing.

For dependability and long useful life, specify and standardize on ARMSTRONG Drop Forged Clamps.

Buy ARMSTRONG TOOLS from your Industrial Distributor

Write for new ARMSTRONG General Catalog

ARMSTRONG BROS. TOOL CO.
5245 W. ARMSTRONG AVE., CHICAGO 46, ILL.

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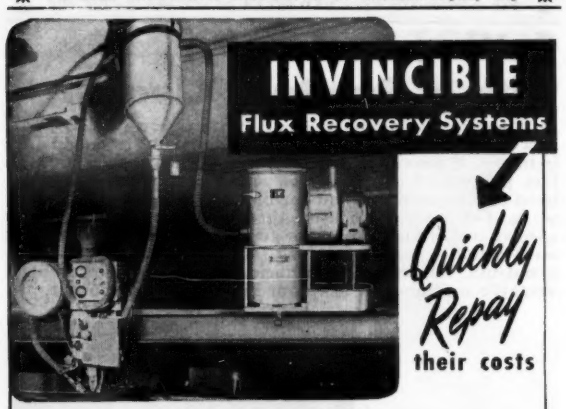


Automatic, continuous-flow Flux Recovery System

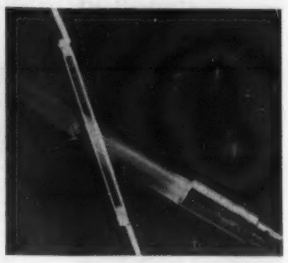
On submerged arc welding jobs, Invincible Flux Recovery Units save money by: **1** Salvaging *all* unfused flux, **2** Operating far more efficiently than manual methods, **3** Reducing welding rejects by removing all fine dust (flux flour).

Write for FREE FOLDER on FLUX RECOVERY SYSTEMS

INVINCIBLE VACUUM CLEANER MFG. CO.
DOVER, OHIO

▲ For more details circle NED-649 E9 on enclosed inquiry slip ▲

RESISTANCE ELEMENT
stable up to 500° C

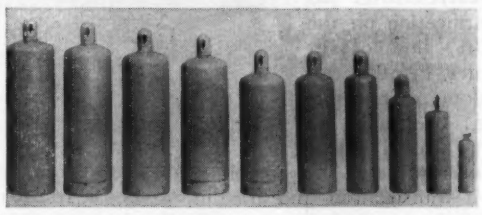


Stability of CTS metal-ceramic resistance element at temperatures up to 500° C makes it extremely reliable at the high temperatures demanded in military requirements. Element is produced by a process which fires a metal resistance path onto ceramic at over 600° C. Temperature coefficient is under 250 ppm per degree C over a range of −63 to 150° C. Resistance range is from 10 ohms to 100K ohms per square. Ceramic bases can be made in many shapes and sizes, and the metal resistance film can be made to cover an entire surface or a defined pattern. Picture shows a 500,000-ohm strip under 500° C torch heat. Made by **Chicago Telephone Supply Corp.**, 1210 W. Beardsley Ave., Elkhart, Ind.

▲ For more details circle NED-651 E9 on enclosed inquiry slip ▲

ACETYLENE CYLINDERS
new filler absorbs more active gas

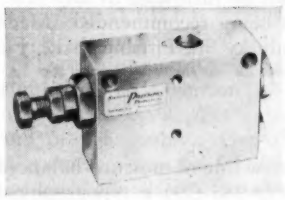
Newly formulated filler now used in these "92" acetylene cylinders absorbs from 10 to 30 per cent more active acetylene gas than previous types, depending



on the tank size. Filler's high porosity also speeds refill time by about the same percentage. Made by **Coyne Cylinder Co.**, 224 Ryan Way, South San Francisco, Calif.

▲ For more details circle NED-652 E9 on enclosed inquiry slip ▲

HOLDING VALVE
for 3000-psi hydraulic service



This 3000-psi holding valve for hydraulic circuits locks a cylinder or motor when no motion is desired, prevents load from running ahead of oil supply when load is moved, and relieves excessive pressures generated in cylinder by the load. In case of power failure, it allows load to be lowered manually. Single models with external pilots, or double models with internal pilots are available. Made by **Sarasota Precision Products, Inc.**, 1314 N. Lime Ave., Sarasota, Fla.

▲ For more details circle NED-653 E9 on enclosed inquiry slip ▲

NEW!
MANHEIM VARIABLE SPEED BELT

Now Outdates Wood Block and Variable Speed V-Belts

MVS Belt replaces enclosed drive belts without disassembly. Its patented design sets a new standard in V-to-V drives because it is adjustable and is installed in minutes instead of hours. Uniform thickness and width guarantee constant power delivery with no cross-sectional distortion. Available in 26 widths from 1½" thru 5".

Write Today For Complete Information

MVS

MANHEIM
MANUFACTURING & BELTING COMPANY
Manheim 4, Penna.

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▲ For more details circle NED-654 E9 on enclosed inquiry slip ▲

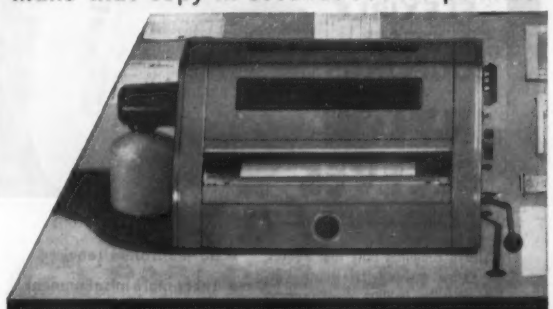
need a good copy fast ?

. . . of anything printed, duplicated, typed, written, drawn or photographed?

. . . from opaque, two-sided or transparent paper

. . . heavy cardboard, pages bound in books or magazines?

Make that copy in seconds . . . for pennies



NEW A. B. DICK PHOTOCOPIER

FREE! Test sheet and photocopy that demonstrate complete range of A. B. Dick Photocopier.

A. B. DICK COMPANY, 5700 West Touhy Ave., Chicago 48, Illinois

▲ For more details circle NED-655 E9 on enclosed inquiry slip ▲

ELCIDE 75™ . . . new way to increase plant efficiency . . . lower costs!

Bacteria, like these, cause emulsion trouble. They enter soluble oil emulsions through the air, water, and plant debris. Feeding on the oil-water mixture, they multiply until they cause odor, corrosion, and final emulsion breakdown. *Now, their damage can be stopped.*

One ounce of Elcide 75 added to each four gallons of standard duty soluble oil emulsion controls these bacteria . . . greatly reduces operating costs. Actual plant tests have shown Elcide 75-treated emulsions last *up to 5½ times longer*. With Elcide 75 you buy less oil concentrate, have less down time for recharging, and cut down the expense of disposal. Labor efficiency is increased while costs decrease. *Write today for more information and actual plant test data.*

PRODUCT SPECIFICATIONS ELCIDE 75

Active Ingredients—Sodium Ethylmercuri Thiosalicylate (Thimerosal) and Sodium *o*-phenylphenate.

PACKAGE	PRICE PER GAL.
1-gallon (4 per case), polyethylene	$8.50
5-gallon, polyethylene	$8.00
55-gallon, stainless steel	$6.50

Sold only through selected distributors.

KEEP COOLANTS FRESH AS A DAISY WITH...

Eli Lilly and Company, Agricultural and Industrial Products Division, Indianapolis 6, Indiana

ELCIDE 75

Lilly's brand of bacterial inhibitor for cutting fluids

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GREEN *Pantograph Engravers*

ELIMINATE DELAYS!

Keep the work in your own plant.

PORTABLE 40-POUND BENCH-MODEL 106

Famous 2 or 3-dimensional engraver, successfully used by thousands, features 5 positive, accurate pantograph ratios. Versatile ball bearing spindle has three speeds up to 14,000 rpm; height of pantograph and position of cutter are continuously adjustable; one copy carrier (supplied) accepts all standard master type sizes.

The Model 106 has proven incomparable for speed and accuracy . . . yet reasonably priced.

Cutter grinders, rotary tables, master letters, compound slides, name plates and all required accessories. For complete information, write to

MODEL D2 HEAVY-DUTY 2-DIMENSIONAL

- 575 pounds . . . rigid, sturdy, precise
- Vertical adjustment of copy table automatic with Pantograph
- Unobstructed on three sides to take large work
- Micrometer adjustment for depth of cut
- Ball bearing construction throughout super-precision ball-bearing spindle
- Spindle speeds up to 26,000 rpm for engraving or machining modern materials
- Ratios 2 to 1 to infinity master copy area 26" x 10"
- Vertical range over 10"

GREEN INSTRUMENT COMPANY, INC.

375 PUTNAM AVENUE, CAMBRIDGE 39, MASS.

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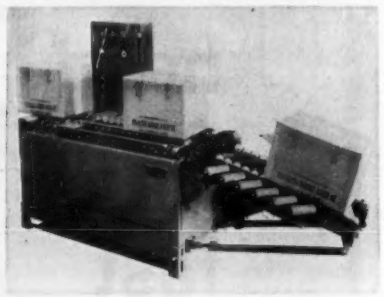
Exact Weight®



CASE AND BAG CHECKWEIGHER

Exact Weight's Model 1250 Selectrol for checking cases, cartons and bags from 20 lbs. to 100 lbs. offers accuracy one-tenth-of-one percent. Speeds to 30 units per minute. Model shown has over and under weight rejection. Also supplied with underweight rejection only or without rejection mechanism. Optional equipment available for machine control, recording, counting and visible or audible signaling. Write for Form 3280.

Find us in your local 'Yellow Pages'

Sales and Service Coast to Coast

THE EXACT WEIGHT SCALE CO.
930 W. FIFTH AVE., COLUMBUS 8, OHIO
In Canada: 5 Six Points Road, Toronto 18, Ont.

BETTER QUALITY CONTROL...BETTER COST CONTROL

▲ For more details circle NED-657 E9 on enclosed inquiry slip ▲

new nyflex

FLEXIBLE GEAR COUPLINGS WITH NYLON SLEEVES

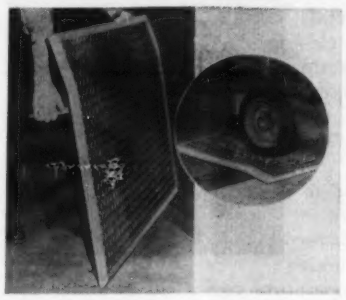
A sleeve weighing only four ounces, an entire assembly weighing only 3½ lbs.! The lightest, most compact flexible gear coupling yet! Never needs lubrication; takes almost 5° misalignment; operates to 150°F; wide range of capacities and speeds. The most important advance in couplings since Sier-Bath's flangeless design! Ten bore sizes available now from stock. Write for Bulletin N 1.

- ▶ No lubrication required
- ▶ Takes more misalignment than standard couplings
- ▶ Use horizontal or vertical
- ▶ Weighs only 3½ pounds
- ▶ Low in price
- ▶ Speeds to 5000 rpm
- ▶ 1⅝" max. shaft capacity

Sier-Bath GEAR and PUMP CO., Inc.
FLEXIBLE COUPLING DIVISION
9242 Hudson Blvd., North Bergen, N. J.
Founded 1905 Member A.G.M.A.

▲ For more details circle NED-658 E9 on enclosed inquiry slip ▲

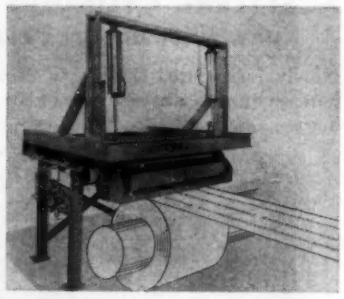
LIGHTWEIGHT DOCK PLATES in 1000 to 5000-lb load ratings



One man can easily handle these light metal alloy dock plates which are made in 1000 to 5000-lb axle load ratings. Plates are 48 in. wide and are available in 24 to 60-in. lengths. Features include safety tread surface, stops to lock board in place between dock and carrier, beveled plate edges, and crowned construction. Plate edges have bright yellow marking. Made by **Magline Inc.**, 1900 Mercer St., Pinconning, Mich.

▲ For more details circle NED-659 E9 on enclosed inquiry slip ▲

OFFSET PRINTER marks metal coils every 18 or 24 in. at speeds up to 500 fpm



Wide coils of metal sheet, gasket material, and other coiled sheet materials can be imprinted with specifications or identification on the Multi - line offset printer. Printing can be done prior to slitting operation so that printed strips as narrow as ½ in. are obtainable. Dies are inked by a transfer roll and the impression is transferred, in reverse, to offset printing roll which applies the message to the material.

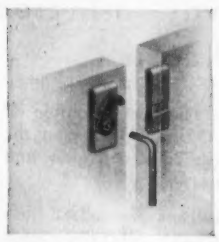
All rolls are geared together to eliminate any slippage between the rolls. Offset roll, which applies the impression, also friction-drives the entire unit. Printing speeds can be controlled up to 500 fpm with message repeated every 18 or 24 in., depending on roll size. Type is held in dovetailed grooves spaced to specification and prints on ½-in. centers with ⅜-in. type characters. Printer can be furnished in any practical width; 5 ft maximum being recommended. Made by **Pannier Corp.**, 301 Sandusky St., Pittsburgh 12, Pa.

▲ For more details circle NED-660 E9 on enclosed inquiry slip ▲

Beg Your Pardon

In the description of the new line of pressure-balanced hydraulic pumps (*Item NED*-986 C9) a typographical error appeared in the address of the manufacturer. The letter "a" changed the state to "Mass." It should have been "Miss." These pumps, which are offered in 14 sizes with output from 1 to 60 gpm and delivering up to 2500-psi pressure, are made by Oliver Tyrone Corp., Berry Hydraulics Div., Corinth 1, Miss.

▲ For more details circle NED-661 E9 on enclosed inquiry slip ▲



New!

DUAL-LOCK... A high-load structural fastener

Here's a new high-load, positive-locking structural fastener that can cut your assembly costs on demountable buildings, shipping containers, aircraft cowlings, etc.

Check these Dual-Lock features:

- Double-acting take-up insures heavy closing pressure; provides pressure-tight seal when gaskets are used.
- Trigger action insures full open and full closed positions.
- Vibration-proof and impact-proof.
- Easily installed; can be recessed in panels or surface-mounted.
- Withstands 7000-lb. tension.

Write today for samples and 40-page catalog.

SIMMONS FASTENERS
Quick-Lock · Spring-Lock · Roto-Lock · Link-Lock · Dual-Lock · Hinge-Lock

SIMMONS FASTENER CORPORATION
1793 North Broadway, Albany 1, N. Y.

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Strong SPECIALTY *Power Type* **TRANSFORMERS** will improve the performance of your volume-produced products.

Supplied to meet your specific requirements.
350 Watts to 7 KVA.
Class A or H insulation.
Can be furnished with 8-point tap changing switch.
25-400 cycles.

We invite you to submit specifications for quotation. No obligation.

Strong

THE STRONG ELECTRIC CORPORATION
"Quality Electrical Equipment for a Third of a Century"
89 City Park Avenue Toledo 1, Ohio
A SUBSIDIARY OF GENERAL PRECISION EQUIPMENT CORPORATION

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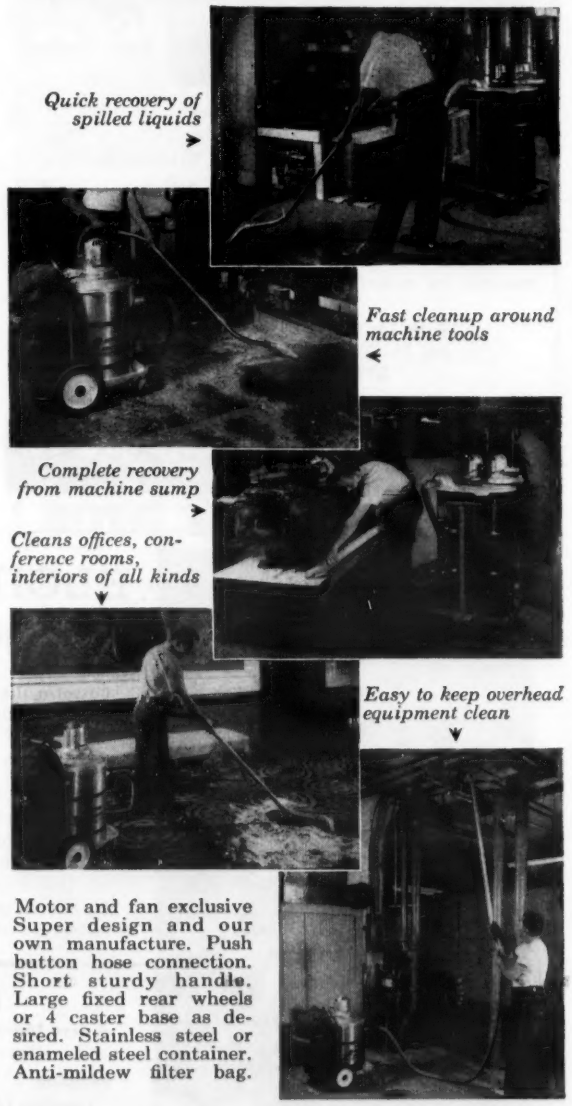
Cutting Cost with a Sanitary Cleaner

● There are so many cost cutting jobs you can do with this big new Super Model RS-1. Especially designed for industry, it provides quick recovery or transfer of liquids, fast pick-up of chips, debris, etc. The quick detachable head can be carried about for blowing and limited suction work. For massive pick-up through 2 in. or 3 in. hose, special cast aluminum cover for use on standard 55 gal. steel drum permits mounting two Super power heads on one drum. Write for the specifications of this amazing and versatile machine. Or ask your local Super distributor.



Motor and fan exclusive Super design and our own manufacture. Push button hose connection. Short sturdy handle. Large fixed rear wheels or 4 caster base as desired. Stainless steel or enameled steel container. Anti-mildew filter bag.

The National Super Service Company
1958 N. 12th St. Toledo 2, Ohio

"Once Over Does It"
SUPER SUCTION SERVICE®
Power Suction Cleaners • Quality Floor Machines
SINCE 1911
"THE DRAFT HORSE OF POWER CLEANING MACHINES"

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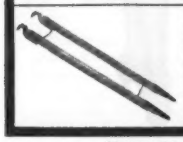
NOW, FASTER SAFER HANDLING
of your Barrels and Drums

Fairbanks Fig. 9090 Barrel Truck
Specifically designed for safer handling of barrels and drums of any height. Barrels and drums loaded and unloaded without ever being touched by the operator. Load balanced over and ahead of wheels to reduce operator's burden and improve maneuverability. Narrow all steel pipe frame — welded assembly.

Fairbanks Fig. 51 Barrel Stand
Permits one man to safely rock full drum into drain position, then provides mobility and convenience for handling, storing and draining steel drums.



Fairbanks Type 228 Barrel Skids
For sliding barrels, drums, kegs or cases from one level to another. Eliminates danger of dropping. Very handy for unloading and loading railroad cars and motor trucks. Available in 7, 8, 10 and 12 foot lengths.

Yours On Request: Truck Catalog, complete with details and specifications on Fairbanks two-wheel and platform trucks. Fully illustrated. Without obligation, write for your free copy today.

THE FAIRBANKS COMPANY
393 Lafayette Street, New York 3, New York
Branches: New York 3 • Boston 10 • Pittsburgh 22 • Rome, Georgia
Casters • Wheels • Trucks • Valves • Dart & "Pic" Unions

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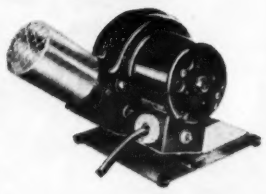
FLAMELESS BLOW TORCH

FOR QUICK HEAT UP TO 1000° F.

For applications requiring quick concentrated heat blast up to 1000° F. without flame. Soften, form, mold and patch plastics, etc. Temperature varied by air intake adjustment. 110-120 V. AC-DC motor. 8 ft. heavy duty cord. Intermittent duty. $37.50
Other models available with lower temp. ranges

Most of the big names in industry use MAMCO in laboratories or in production

AIR HEATER BLOWER



For quick electrically heated air up to 500° F. For accelerating drying processes or for localized heating. B.T.U. 3400. Air velocity 2000 FPM. 110-130 V. AC only. 8 ft. heavy duty cord. Continuous duty. 2" dia. x 3" long discharge nozzle.
Order through your local laboratory or industrial supplier or direct.
300° F.—1000 Watts $37.50
500° F.—1400 Watts $39.50

MAMCO Corporation, Racine, Wisconsin

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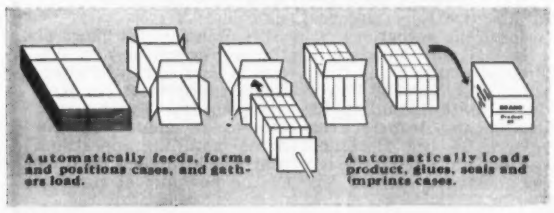
Take the HANDS out of PRODUCT HANDLING

Let Packomatic equipment do any or all your casing operations AUTOMATICALLY



FOR CASING ROUND, SQUARE, RECTANGULAR OR FREE-FORM PACKAGES OF VIRTUALLY ANY SIZE. If you employ even one person per shift to hand-form cases, or to hand-pack, hand-seal, or hand-imprint them, then it can pay you to install Packomatic equipment. Write, phone or wire for facts on how to reduce your casing costs.

J. L. FERGUSON COMPANY
Box 1226, Phone 6-6275, Joliet 12, Illinois

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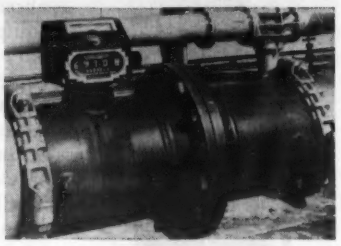
HIGH FLOW RATE METER
has 15,000 bph capacity with up to 500 Ssu viscosity liquids



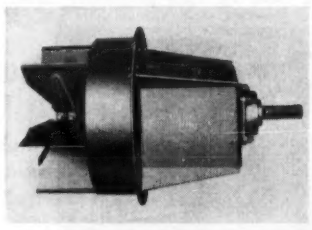
Flow rates up to 15,000 barrels per hour for liquids of up to 500 Ssu viscosity are measured by this 16-in. Turbo - Meter. Housing has an inside diameter no larger than that of the pipe line. Unit operates on the principle of direct relationship between rate of liquid flow through the meter and speed at which rotor element is turned by the force of liquid. Ball-bearing, suspended turbo-rotor functions as the metering element.

A viscosity compensator imposes a mechanical drag on the turbo-rotor directly proportional to liquid viscosity. Magnetic drive, sealed from line fluid and mounted on downstream end of turbo-rotor shaft, transmits power to either a mechanically or electrically actuated register.

Working at 150-psi pressure, meter is accurate to 0.15 per cent, or as high as 0.05 per cent, depending upon service. Made by **Rockwell Mfg. Co.**, Meter & Valve Div., 400 N. Lexington Ave., Pittsburgh 8, Pa.

▲ For more details circle NED-668 E9 on enclosed inquiry slip ▲

HIGH TEMPERATURE FANS
extensive models and capacities are designed for 1850° F service



Air-scoop wheel built for high pressure, high temperature operation is a feature of RF Thermal-Aire fans and fan plug units. Fans are available with uninsulated or insulated housings, reversible and rotatable discharge, a variety of accessories, and can be incorporated in a ducted system. Plug units (shown) utilize an insulated plug between the wheel and the innermost bearing for protection from heat radiation. They are offered without housing, with conventional RF fan housing, or with diffuser vane assembly.

Plug units simplify installation since duct work is eliminated. Conversion into a standard RF Thermal-Aire fan is by application of a conventional housing and inlet assembly. Gas-tight and corrosion resistant construction can be furnished. Fans and plug units are rated at 60,000 cfm and higher, at static pressures up to 18 in. Wheel sizes range from 14 to 71¼ in. An air-cooled shaft protects bearings against heat transmission up to 1700° F; a water-cooled shaft extends the range to 1850° F. Made by **Garden City Fan Co.**, 801 N. Eighth St., Niles, Mich.

▲ For more details circle NED-669 E9 on enclosed inquiry slip ▲

4 Ways Better
For Every Sweeping Job!

1. Highest quality materials and construction
2. Outlast ordinary brushes 2 to 1
3. Tufts cannot come out or come loose
4. 27 styles and sizes to choose from

Milwaukee Dustless Brush Co., 530 N. 22nd St., Milwaukee, Wis.

FIRM _____
ADDRESS _____
CITY _____ STATE _____

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SEND for FREE SAMPLE to prove our NEW AIRCOOL SWEAT BANDS are COOLER! Longer Lasting!

PULMOSAN AIRCOOL —the only sweat band made of perforated pure foam rubber, reinforced with a cotton backing. The perforations aid evaporation of water and circulation of air . . . AIRCOOL SWEAT BANDS are really *cool!* Elastic headbands are easily adjustable with 4-slot slide. Foam rubber body is durable, tear resistant, soft, resilient. *Packaged 25 per box.* 16¢ each. 1,000 or more, 14¢.

PULMOSAN STOPS Accidents
Pulmosan
SAFETY EQUIPMENT CORPORATION
644 Pacific Street, Brooklyn 17, N. Y., STerling 9-0200
1007 Washington Ave., St. Louis, Mo., (Chestnut 1-9393)

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New Paslode Model PR

Air return and no recoil in this one new tool

Two major stapling tool improvements—air return and high-speed piston—are combined for the first time in the new Paslode Model PR air-power staplers. The result is a stapler that sets new high-performance standards, proved in use.

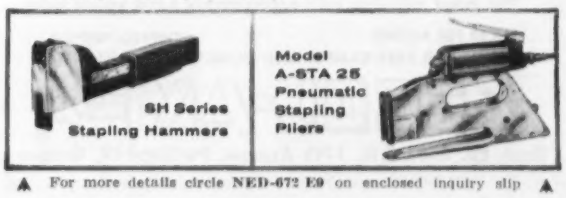
Jet-drive air return delivers positive high-speed action and extends tool life. Eliminates parts most subject to failure in any stapler. Helps stop costly production line delays.

High speed nylon piston drives staples without recoil. A light touch drives every staple home. The tool does more of the work. Work quality starts high, stays high.

PR staplers take Paslode wide and narrow crown staples in leg lengths from 3/16" to ¾". Write today for information. Better yet, include a word about your stapling application and let us arrange a free demonstration.

PASLODE COMPANY
Division of Signode Steel Strapping Co.
5860 Northwest Highway, Dept. ED, Chicago 31, Ill.

There's a Paslode hand or pneumatic stapler to help cut the cost of almost every kind of stapling. Each has the Paslode reputation for rugged dependability. Send for description and prices.



▲ For more details circle NED-672 E9 on enclosed inquiry slip ▲

Pick the right tube fitting quicker with this 128-page Parker Data Book

All the data to design or "tube up" an industrial system is included in this 128-page Parker Tube Fittings Catalog. Guides you in proper tube selection. Gives installation hints, also descriptions and dimensions of all Parker Fittings: "Triple-lok," "Ferulok," "Intru-lok," "Weld-lok," "Braze-lok," in steel and stainless steel, copper, aluminum, brass, for any industrial system from instrument lines to high pressure hydraulic lines.

Ask your Parker distributor, listed in the Yellow Pages, for a Parker 4300 Catalog. Or write . . .

Parker FITTINGS AND HOSE DIVISION
17325 Euclid Avenue • Cleveland 12, Ohio
A DIVISION OF PARKER-HANNIFIN CORPORATION

▲ For more details circle NED-673 E9 on enclosed inquiry slip ▲

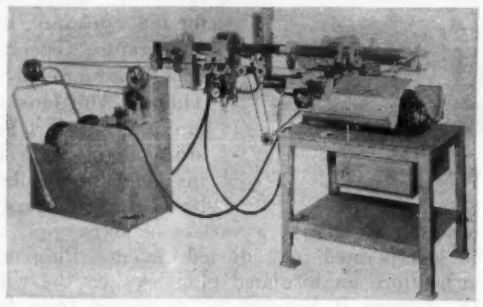
ABRASIVE BELT GRINDER for wet or dry operation

The dry Model 600-P abrasive belt grinder is equipped with an exhaust outlet, or it can be equipped with a built-in DusKolector at extra cost. As a wet model, its sprayer provides a heavy lay of water on the belt and flooding of the work. A curtain traps splash, and a hood and large pan provides effective spray and splash control. A lever releases spring belt tension for rapid belt changes. Quick change from vertical to horizontal position is made by loosening two screws. Drive is by V-belt and 1 or 2-hp, 1750-rpm motor. Grinder uses a 6 x 48-in. abrasive belt which runs at 3400 sfpm. Platen is 6 x 11½ in. and work rest is 3 x 8½ in. Made by **Hammond Machinery Builders, Inc.**, 1623 Douglas Ave., Kalamazoo, Mich.

▲ For more details circle NED-676 E9 on enclosed inquiry slip ▲

WIRE PREFEEDER regulates feed rate according to speed of cutoff-stripping machine

Insulated wire from a reel is fed to an Artos automatic measuring, cutoff, and stripping machine at an appropriate, self-adjusting rate by this prefeeder unit.



This is done through a servo linkage between the floating lever arm and a variable-speed sheave mounted on a pivoted bellcrank. Linkage mechanism also controls starting action of the ⅓-hp prefeeder drive motor through an automatic switch trip.

Very slight tension in feed wire to the machine will activate linkage system due to a double set of idler pulleys with a 4:1 mechanical advantage. Differences in reel diameter have no affect on feed rate. V-belt drives are used between prefeeder motor, the variable-speed sheave, and a jackshaft sheave. Prefeeder is shown in operation with Model CS-6 cutoff and stripping machine. Made by **Artos Engineering Co.**, 2757 S. 28th St., Milwaukee 46, Wis.

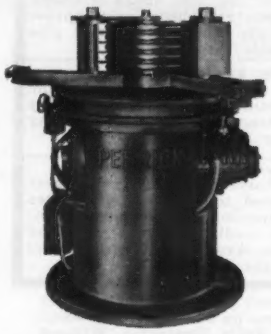
▲ For more details circle NED-677 E9 on enclosed inquiry slip ▲

extra!

ALL ABOUT THE LATEST BENDING METHODS

Let Pedrick show you how the latest methods of bending pipe, tube and structural metal—on a job or production basis—can save you money.

For full information on Pedrick Production Benders, write PEDRICK TOOL AND MACHINE CO. 3640 N. Lawrence St., Phila. 40, Pa. Dept. 6



FREE "PEDRICK LINE" BULLETIN. WRITE TODAY.

PEDRICK production benders

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BARRETT Centrifugal OIL EXTRACTOR

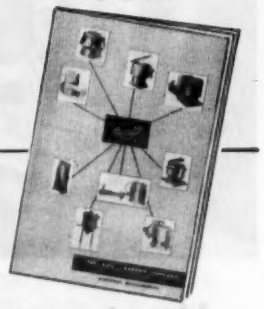
REMOVES AND RECLAIMS 99½% OF REMOVABLE CUTTING OIL IN LESS THAN 2 MINUTES...from chips, parts or grinding sludge.

CAPACITY — 63 cu. ft. or 3 tons per hour.

RUGGED HI-TORQUE MOTOR with indestructible rotor assures long, trouble-free life under continuous use.

GYROSCOPIC BALANCING — virtually eliminates vibration — assures smooth operation.

OTHER BARRETT CENTRIFUGALS
Washers • Dryers • Enamelers
Galvanizers • Breakers
Impregnators



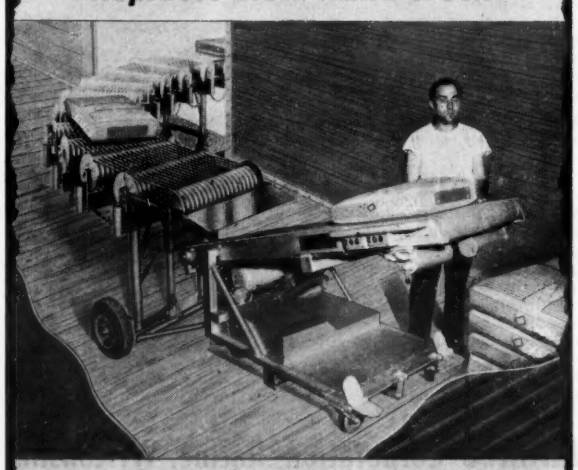
SEND FOR 16 PAGE TECHNICAL BROCHURE. Describes Typical Applications, Special Applications, Design Features, Performance Data, Standard and Special Units.

THE LEON J. BARRETT COMPANY
1503 GRAFTON ROAD
WORCESTER, MASSACHUSETTS, U.S.A.

▲ For more details circle NED-674 E9 on enclosed inquiry slip ▲

One-Man Loading for Box Cars and Trucks Is Now Possible in Bagged Shipment Plants

New Power-Curve Swivel Stacker & Loader Shoots Bags into Place, Replaces Slow Hand Truck



The Power-Curve Swivel Stacker and Loader at a large chemical plant uses but one operator who merely guides bags a little with one hand as they stream into the car direct from the Packer. The single operator replaces a crew of three.

(Special)—The latest in bag loading techniques is now being demonstrated to industrial producers who are fed up with the slow, old-fashioned hand wheel truck. A single conveyor-stacker system conveys the bags all the way from the packing machine and speeds up the loading, delivers cleaner, neater bags, reduces in-transit losses, and recovers spillage and loose material within the plant. The Power-Curve system is able to amortize its entire cost in less than a year.

In U.S. and Canadian industrial plants today there are in daily use 358 Power-Curve units, including 133 Packer and transfer conveyors, 84 bag flatteners and elevators, and 141 box car and truck loaders. Virtually every type of operation is represented in the list of Power-Curve owners, with new additions every month.

Backing up the news of the money saving new system is a network of Power-Curve representatives in all areas equipped with sound movies in color showing actual handling operations and the effortless loading of the new swivel stacker.

For complete details write the Engineering Sales Division

POWER-CURVE CONVEYOR COMPANY
2185 SOUTH JASON ST., DENVER 23, COLORADO

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SILVER PLATING "ON THE JOB" WITH POWDER

Cool-Amp Silver Plating Powder deposits a genuine coat of silver that will not peel off, and will provide lasting protection against oxidation. It has been used extensively and is accepted as equal to electroplating for bolted and stationary contacts.

Reduces Maintenance
Saves Electricity

Cool-Amp minimizes overheating and provides cool maximum conductivity for your copper, brass or bronze contacts. Used on all current carrying connections, Cool-Amp silver plating assures long life and low maintenance and will prevent series of losses from oxidation that are too small to create noticeable heat but still accumulate into major power loss. Apply to fuse clips and blades to reduce overheating.

Cool-Amp contains no cyanide and is simple to apply. It can be used by any number of people at the same time ON THE JOB in underground vaults, sub-stations and hard-to-get-at places. The only equipment needed is a sharp steel wire brush or abrasive cloth, clean rag and water.

One pound will silver plate approximately 6,000 square inches.

$13.50 PER POUND **SHIPPED PREPAID**
WRITE FOR FREE SAMPLE AND QUANTITY QUOTATIONS

The COOL-AMP Co.
Dept. ED. 8603 S.W. 17th Avenue, Portland 19, Oregon

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LOCK-GRIP PLIER
Pat. No. 2,746,646

LOCKING KEY FREES BOTH HANDS: Pushing the locking key forward automatically locks the jaws. Jaws released instantly by pulling back on the locking key.

New multi-purpose tool to pick up and grasp small parts for soldering or other operations; as a vise to free both hands; to secure rivets; to cut small wire; to strip insulation; as a brad or staple setter.

ONE HAND ACTION: Quick one-hand adjustment for size and lock-up leaves the other hand entirely free.

No. 800 .....$4.50

New Catalog of X-ACTO PRECISION HAND TOOLS for INDUSTRY. FREE on request.

Multi-Purpose Tool serves as:
(1) Plier
(2) Vise
(3) Wire Cutter
(4) Stripper
(5) Crimper
(6) Tweezer
(7) Wrench
(8) Heat Sink

At your ELECTRONIC PARTS JOBBER or order direct.

HANDICRAFT TOOLS, INC.
a division of **X-ACTO, INC.**
48-416 Van Dam St., L. I. C. 1, N. Y.

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Higher Vacuum . . . Suction . . . Pressure with Smaller LEIMAN AIR PUMPS

Exclusive Hinged Vane Design provides 2 to 3 times more air space per size and weight of pump

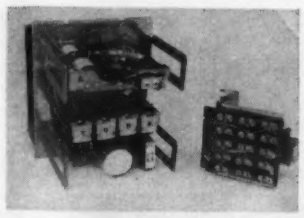
Leiman simplified design has fewer moving parts. All parts made of durable cast iron and steel (not composition). Take up their own wear to give "lifetime" service. No gaskets or packing —no tips to renew—no troubles—little maintenance. Quiet operation. Every pump tested. Wide range of models and sizes in Vacuum to 29.9" hg., Pressure to 20 psig., Volume to 162 cfm. Write for 16-page Catalog and Application Book showing dozens of "how-to-do-it" blueprints.

LEIMAN BROS., Inc., 167 Christie St., Newark 5, N. J.

LEIMAN Rotary Positive AIR PUMPS

▲ For more details circle NED-681 E9 on enclosed inquiry slip ▲

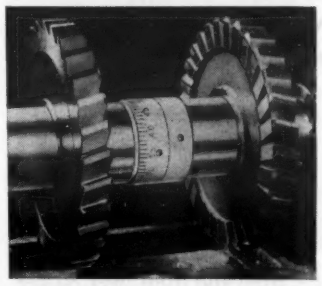
INTERCOM SYSTEM
dial type has 17 stations



Signal transfer circuit provides the K-1A1 intercommunication system with a 17-station capacity. The price of the key telephone system with two dial units is $104.44. Made by **Kellogg Switchboard & Supply Co.**, 6650 S. Cicero Ave., Chicago 38, Ill.

▲ For more details circle NED-684 E9 on enclosed inquiry slip ▲

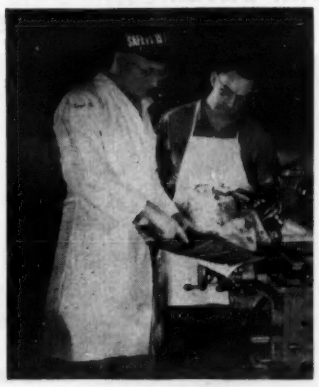
ARBOR SPACERS
micrometer speeds set up



Adjustable micrometer arbor spacers with 0.001 - in. graduations provide for any spacing. They are primarily used for straddle milling, but can be used for raising blocks, fixture spacers, gage sets, and stops for milling machines, lathes, drill presses, turret lathes, and die jacks. Spacers are available in 3/8 to 1½-in. widths. Larger sizes can be made to order. Narrow sizes have 1/16-in. adjustment and wider sizes have up to ¼-in. adjustment. Made by **Mayer Engineering & Mfg. Co.**, 815 S. Ninth St., Milwaukee 4, Wis.

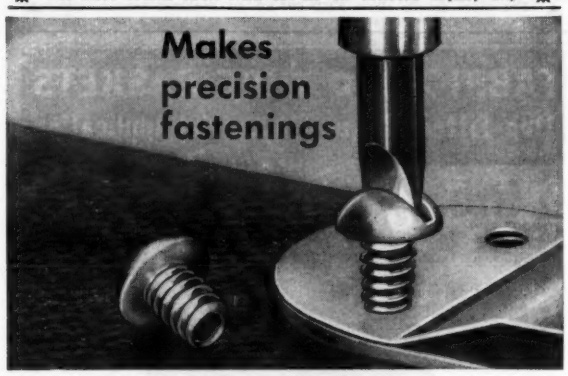
▲ For more details circle NED-685 E9 on enclosed inquiry slip ▲

DISPOSABLE GARMENTS
coats, jackets, coveralls, aprons



Low cost, throw-away protective garments of Kaycel nonwoven material offer protection from contamination and soiling by liquids, dusts, and noxious fumes. Three - quarter length laboratory coats, shop coats, two - piece coveralls, and aprons in four sizes are offered. Special designs can be ordered in volume. Various button, sleeve, and pocket options are available in the laboratory coats. Material is fire resistant and water repellant, cuts like paper, sews like cloth, and can be glued and grommeted. It will also accept silk screen, letterpress, and flexography printing. Made by **Williamson-Dickie Mfg. Co.**, Ace High Div., 509 W. Vickery Blvd., Ft. Worth 1, Tex.

▲ For more details circle NED-686 E9 on enclosed inquiry slip ▲



. . . with inch-gram accuracy!

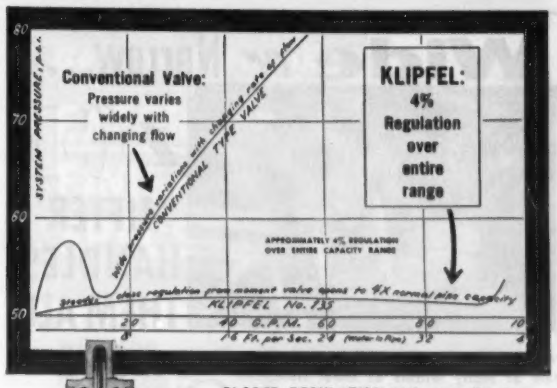
Wherever fasteners require precision torquing, you can depend on Apco Mossberg Torque Screwdrivers for full-scale accuracy. Large, clearly visible dial faces speed sight readings . . . reduce costly errors on all types of electrical, electronic and instrument assembly or repair work. No springs or delicate parts to get out of order.

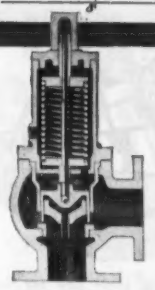
Several sizes available in a wide range of inch grams, inch ounces and inch pounds.

WRITE FOR DETAILS

APCO MOSSBERG COMPANY
161 Lamb Street Attleboro, Massachusetts

▲ For more details circle NED-682 E9 on enclosed inquiry slip ▲





CLOSER REGULATION high capacity, too with KLIPFEL BACK PRESSURE VALVES

Klipfel No. 135 Back Pressure Valves are ideal for original equipment installations and are used with any clean fluids for pressures from 5 to 300 lbs.

Klipfel Cup Disc Valves provide excellent regulation at all rates of flow. Upstream pressure rise is a fraction of that with conventional valves. Capacity is 4 times that of a pipe of the same size.

FREE: Write for Bulletin 454 containing complete information on Klipfel Back Pressure Valves.

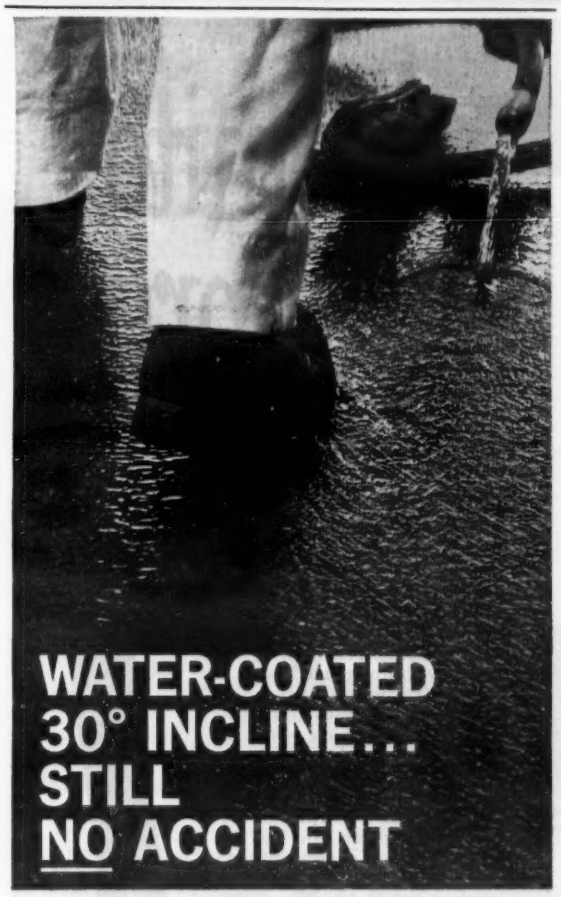
HAMILTON • OHIO **Klipfel** VALVES, INC.

Automatic Temperature-and-Pressure-Regulating Valves Since 1902

Float Valves • Temperature Regulators • Back Pressure Valves • Reducing Valves

A DIVISION OF THE HAMILTON-THOMAS CORPORATION

▲ For more details circle NED-687 E9 on enclosed inquiry slip ▲



Get Long-Life Protection Against Slipping with Alcoa Abrasive Tread Plate

A slick, water-soaked surface in a vital production area with heavy traffic has all the elements of a safety director's bad dream. Only Alcoa® Aluminum Abrasive Tread Plate prevents such a nightmare. Made with tough particles of fused aluminum oxide, it remains slip-proof even when wet, oily or greasy. It prevents costly slipping accidents that can injure workers, cause production breakdowns and higher insurance rates.

Find out how you can eliminate hazardous conditions on ramps, aisles, catwalks and other areas with easy-to-install, corrosion-resistant Alcoa Abrasive Tread Plate. Check the coupon below, write Aluminum Company of America, 1689-D Alcoa Building, Pittsburgh 19, Pa., or call your nearest Alcoa Distributor.

ALCOA ALUMINUM

Your Guide to the Best in Aluminum Value

For Exciting Drama Watch "Alcoa Theatre," Alternate Mondays, NBC-TV, and "Alcoa Presents," Every Tuesday, ABC-TV

Aluminum Company of America
1689-E Alcoa Building, Pittsburgh 19, Pa.
I'd like to see how Alcoa Abrasive Tread Plate prevents slipping.
Please send me FREE sample—also application, design and fabricating data.
Name _____
Title _____
Address _____
City _____ State _____

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FROM DENISON *a small hydraulic press so productive it...*

GUARANTEES YOUR SAVINGS

If in 45 days the Denison Model "A" Multipress does not cut your production costs or does not improve production quality, simplify operation or give your shop more versatility—simply return the press.

Multipress is ideal for assembly, forming, staking—and 101 other jobs. No cost or obligation to try it out now, in your own plant.

- High-speed cycle time
- Foolproof safety controls
- Manual or automatic operation
- Compact...24" high
- Lightweight...225 pounds
- 8" daylight for tooling
- Simple pressure adjustment
- Controlled hydraulic ram pressure

YOU PAY FOR ONLY THE FREIGHT

Denison Model "A" hydraulic Multipress. Available in 1-ton and 2-ton ram capacity.

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DENISON ENGINEERING DIVISION
American Brake Shoe Co.
1192 Dublin Road • Columbus 16, Ohio

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DENISON HydrOILics
HYDRAULIC PRESSES • PUMPS • MOTORS • CONTROLS

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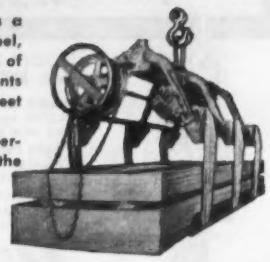
Wide or Narrow...

1 C-F LIFTER HANDLES THEM ALL



Whether your production requires a few or many widths of sheet steel, 1 C-F Lifter, with its wide range of jaw and carrying angle adjustments will probably meet all your sheet handling requirements.
Adjustments are made by the operator in a few seconds, permiting the lifter to shift from wide to narrow sizes almost instantly. Because it can pick up, carry and unload more loads per hour, using less man and crane time than any other method, a C-F Lifter will soon pay for itself.

Bulletin SL-30 gives you the complete story of C-F Lifter advantages to you. Ask for it today. There is no obligation.

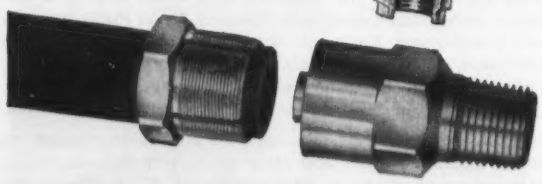
CULLEN-FRIESTEDT CO.
1304 South Kilbourn Avenue • Chicago 23, Illinois

For more details circle NED-689 E9 on enclosed inquiry slip

Alemite Surgepruf®

THE COMPLETE LINE OF NATIONALLY AVAILABLE HYDRAULIC HOSE AND REUSABLE COUPLINGS FOR FAST, EASY ON-THE-JOB REPLACEMENTS!

New Low-Pressure "Shur-Lock" Hose—for use on fuel, filter, oil, air and vacuum gauge lines . . . wherever low-pressure hose lines are used within a temperature range from −40° to +275°F. Rugged, precision-matched couplings with leak-proof grip. Complete range of hose sizes and couplings, as well as adapters and swivel adapters. Quick, easy assembly. General purpose hose and coupling utility kits Nos. 2208 and 2209, eliminate need for big inventory.



Medium-High and High-Pressure Non-Skive Hydraulic Hose—of either single or double wire braid. Seamless inner tube of Buna-N rubber and synthetic Neoprene outer cover. Resists abrasion, weather, oil. High-strength, reusable couplings. Assemblies made easily, without special tools. General purpose utility kit No. 2207 eliminates need for big inventory.

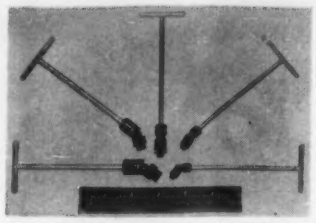
Write for complete catalogs of Surgepruf Hose, Couplings and Components.

Symbol of SW Excellence — ALEMITE DIVISION STEWART-WARNER CORPORATION

Dept. HH-59, 1850 Diversey Parkway, Chicago 14, Illinois

For more details circle NED-690 E9 on enclosed inquiry slip

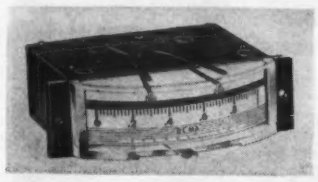
UNIVERSAL WRENCH SET for socket head cap screws



Socket head cap screws in places normally inaccessible to standard Allen wrenches can be reached with these universal wrenches. Available in five sizes, wrenches are about 5¼ in. long over-all. Yokes are milled from solid steel blanks and are small enough to enter the counterbore of the cap screw. Handle is integral with the universal. Made by **Abington Machine Co.**, 8824 Alpine Rd., Detroit 4, Mich.

For more details circle NED-691 E9 on enclosed inquiry slip

ELECTRONIC CONTROL METER has adjustable control set arms



Miniaturized Model 2545 electronic control meter operates without use of contacts at the set points, making the full scale range available for readings. Control set arms are adjustable from the front over 80 per cent of the scale area. Separate meter and control circuits are electrically isolated. Instrument can be used in automatic control systems, alarm and warning circuits, and as a level indicator. Two sets of coils enable the pointer to produce a signal at two different points anywhere on the 2.7-in. long scale. Made by **International Instruments Inc.**, Box 2954, New Haven 15, Conn.

For more details circle NED-692 E9 on enclosed inquiry slip

AIR DRYER operates on 5 to 150-psi pressure

Applications requiring up to 20 cfm of extremely dry air can be served by the Lectrodryer Budget air dryer. These include instrument controls, wave guides, pilot plant operations, and small cubicles. Connected to air supply and 110 v ac, dryer automatically performs its cycle of adsorption and reactivation until shut down. Unaffected by air pressure variations, unit operates on 5 to 150-psi air pressure. Valve mechanism moves only once every 3 hr, when unit automatically shifts adsorbers. Made by **McGraw-Edison Co.**, Pittsburgh Lectrodryer Div., Box 1766, Pittsburgh 30, Pa.

For more details circle NED-693 E9 on enclosed inquiry slip

PIPE REPAIR PERMANENCE

The Skinner-Seal Emergency Pipe Clamp is an instant, lasting repair under any operating condition. Rugged malleable iron. Anyone can apply in a few moments. Made in all sizes, ½" to 12", for steel and C. I. pipe. Stocked by practically all supply stores.

M. B. SKINNER CO., South Bend 21, Ind. — Established 1898

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NEW PRECISION HOLE GAGE

Requires no "Masters" Rings or Setting Blocks

MECHANICAL
RUGGED
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FREE! Bul. # SSC-B1 Write for your copy

- Range .370" to 1.510"
- Calibrated to .000010" accuracy
- Sets any hole size to .000025"
- .005" direct-reading linear scale
- Priced to fit your budget

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"Job-Fitted" for any Industrial Application

Let Cleveland Wire Cloth fit your fabricated baskets to your industrial application. Years of experience in fabrication of wire cloth into products for heat treating, annealing, carburizing, degreasing, etc. assure thorough knowledge, expert craftsmanship and quality materials. We engineer wire baskets any style, size and shape from limitless numbers of metal alloys to fulfill your most exacting requirements.

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Send your wire basket specifications today. Ask for free bulletin No. 8.

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IN EVERY FIELD, THERE IS ONE FOREMOST NAME . . . IN SONIC ENERGY, THAT NAME IS BENDIX

FACTS YOU MAY NOT KNOW ABOUT SONIC ENERGY CLEANING—

You probably know that Bendix Sonic Energy Cleaning is in truth a *production tool*—a practical method for (1) lowering cleaning costs while (2) improving product performance and (3) reducing the number of rejects. But perhaps you don't know the where-why-who needed to justify investment in equipment.

WHERE applicable (it isn't always), Bendix Sonic Energy Cleaning has set some new records for efficiency and economy (we'll show you case histories to back this up).

WHY Bendix® is today's top authority on this system can be answered in one word—experience. Bendix has lead since the early days, pioneering Sonic Energy Cleaning.

WHO can use it? Who cannot? That's easy to determine—Bendix maintains an Applications Laboratory where production experience is teamed with the latest facilities in finding the answer.

If you can use it to real advantage, Bendix has a complete line so that the best equipment for your particular needs can be selected quickly.

GET THE AUTHORITATIVE FACTS . . . SEND FOR THIS FREE REPORT

The principles and workings of Sonic Energy Cleaning are illustrated, described and analyzed in detail. A five-step plan is outlined to help you determine feasibility of Sonic Energy Cleaning for you. To get your copy, write PIONEER-CENTRAL DIVISION, BENDIX AVIATION CORPORATION, 2723 HICKORY GROVE ROAD, DAVENPORT, IOWA.

Bendix — SONIC ENERGY CLEANING

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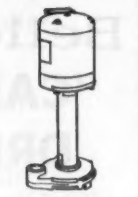
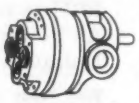
To replace almost any pump in a hurry . . . call your Brown & Sharpe Distributor


Motor Driven Centrifugal

Automatic Reversing Vane


Rotary Geared

Brown & Sharpe makes and stocks more pumps, for handling more fluids, than any other pump manufacturer. It has 70 years of pump experience. B&S pumps are built with closer tolerances and finer finishes for longer life, even at high speeds. Available to you quickly through your Brown & Sharpe industrial distributor. Brown & Sharpe Mfg. Co., Providence 1, R. I.

Brown & Sharpe
HYDRAULICS DIVISION
GEAR, VANE AND CENTRIFUGAL PUMPS
DOUBLE A VALVES
GEROTOR PUMPS
POWER UNITS
PROGRESS IN PRECISION FOR OVER 125 YEARS

Precision Tools and Gages • Milling, Grinding and Screw Machines
Cutters • Machine Tool Accessories • Pumps and Hydraulic Valves

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3 New, Improved Thread-Cutting Screws from Parker-Kalon!

Whatever the material, whatever the requirements, there's a new, improved P-K thread-cutting screw that's just right for your application. The five cutting flutes on the new, improved P-K Type "F" and "BF" reduce pressure development by 80 percent! The completely formed threads on these screws have sharper cutting edges, fully formed threads and 5 deep flutes that are of continuous depth. These features make for better clearance of the accumulated material and assure minimum stresses in driving and avoid the possibility of stripping or galling.

New, Improved P-K® Type F* . . . Ideal for friable, granular, or brittle material. For ferrous or non-ferrous castings, bronze or brass forgings, heavy gage sheet metals, structural steel, plastics, or resin-impregnated plywood.

"PENTAP" the New, Improved P-K Type B-F* . . . For comparatively thin sections and bosses in friable and brittle plastics.

Combines the five thread-cutting flutes of the Type F screw with the coarse pitch, widely-spaced threads of the P-K Type B. It distributes cutting pressure evenly, lets chips drop to the bottom of the hole, prevents cracking of the material.

The New P-K Type L† A completely new and improved tapping screw developed for use in Nylon. Functions as a combination thread-cutting and thread-forming screw, cutting a small amount of the Nylon to allow the full diameter threads to form. Offers a particular advantage in Nylon assemblies which must be disassembled for service, because *it can be readily removed and replaced without stripping or galling.*

And don't forget . . . P-K can provide all types of SEMS and Pre-assembled Fastener-Washer Combinations. Send for your FREE Test-Pak of P-K Sems and new, improved Thread-cutting Screws Today!

PARKER-KALON®
fasteners

PARKER-KALON DIVISION, General American Transportation Corporation, Clifton, New Jersey • Offices and warehouses in Chicago and Los Angeles.

*Patent Pending †U. S. Patent 2,350,346

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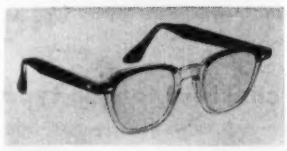
HYDRAULIC FLUID FILTERS in 15 to 90-gpm rated flows

Hand removable cover, held in place by retaining ring, makes it possible to change the element of Quick-Top filters in less than 1 min. Filters used to clean hydraulic oils, fuels, solvents, lubricating oils, and other fluids have standard AN-6236 elements. They are rated for 15, 30, 60, or 90-gpm flow rates at temperatures from −65 to 200° F. Series 600, 650, and 700 filters are used with systems having maximum pressures of 250, 1000, and 5000 psi, respectively. They can be supplied with bleed and check valves, and differential pressure indicators. Made by **Consolidated Diesel Electric Corp.**, Test Equipment Div., 1 John St., Stamford, Conn.

▲ For more details circle NED-700 E9 on enclosed inquiry slip ▲

SAFETY GLASSES styled for appearance



Series 711 Duo-Tone plastic frame safety glasses are offered in both the broad spatula style and the cable style temple. Latter has a permanent vinyl coating. The Duo-Tone line also provides the standard S-7 square lens shape, allowing interchangeability with present safety glasses. Both prescription and plano lenses are offered. Made by **Sellstrom Mfg. Co.**, Palatine, Ill.

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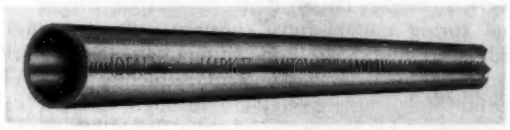
TUBE MARKING MACHINES automatically mark any materials

Although their primary application is metal tube marking, Mark V Volumark automatic tube marking machines can be adapted to mark plastic, rubber, glass,



and other materials. Marking methods are ink-stencil, dry wipe of ink into impressions, or impressing imprints for application of coding, names and trademarks, measure marks, and production dates. Model A machine handles ½ to 2-in. diameter pipe at a rate up to 1800 ten-foot lengths per hour. Model B for 2½ to 6-in. diameter pipe marks 300 to 600 ten-foot lengths per hour. Both have three sets of roller dies which are spring-loaded to follow the pipe contour. They can be quickly adjusted to make impressions from 0.0002 to 0.030-in. deep. Made by **Ideal Stencil Machine Co.**, 102 Iowa Ave., Belleville, Ill.

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Eastern PORTABLE MIXERS

especially designed for small batch processes

. . . offer precise mixing results with long-term cost savings

Eastern Portable Mixers give dependable, low-cost service in small batch processes. Where fixed mounted installations are not required, Eastern's Portables offer greater versatility, ease of handling, and long-term savings.

Speeds of 420, 1125, and 1725 R.P.M. rated from 1/20 to 3 H.P. are standard. Motors in all standard types can be supplied in open drip-proof, totally-enclosed, or explosion-proof construction.

Write for new Portable Mixer Bulletin 530-N.

EASTERN INDUSTRIES, INC.
MIXER DIVISION • NORWALK, CONN.

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✓ REDUCES REJECTS
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WRITE FOR FREE BOOKLETS
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DIVISION OF CLEVITE CORPORATION
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Increase Your Profits With
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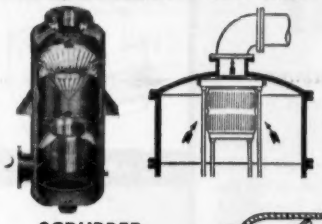
SCRUBBERS • PURIFIERS • SEPARATORS

No Filters • No Moving Parts • Self-Cleaning
Easy to Install • Low Cost • Pays for Itself



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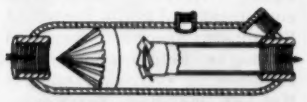
Guaranteed to remove 99.5% or more of ALL solid or liquid entrainment—dust, fumes, sulfides, fly ash—regardless of size in gas, air, steam or vapor; minimum pressure drop.



LINE-TYPE SEPARATOR
Removes water from steam; increases heat transfer; protects turbines, compressors; keeps compressed air lines free of oil and water.

AA-9248

FOR THE FINEST IN CONDITIONING EQUIPMENT FOR STEAM-VAPOR-GAS-AIR

Centrifix CORPORATION
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CLEVELAND 14, OHIO

All Centrifix equipment is protected by U. S. Patents Patent & Patents Pending

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WORN DANGEROUS STAIRS MADE NEW AGAIN IN ONE DAY—

. . . Just This Easy

Outwears Concrete, Stone or Marble

NEW SUPER STAIRMASTER Aluminum Safety Treads

Brand new "TRAFFIC-FLOW" design. Made of heavy-duty, non-corrosive aluminum alloy base. Filled with diamond hard abrasive. Non-slip under oil or grease. Easy to clean. Fits tightly, securely, over all types of stairs.

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FREE new bulletin shows how to repair stairs GET DETAILS

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COMPANY _____
ADDRESS _____
CITY _____ STATE _____

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Super Sharp Super Honed!

CONSISTENTLY ACCURATE

CARBIDE TIPPED SAWS!

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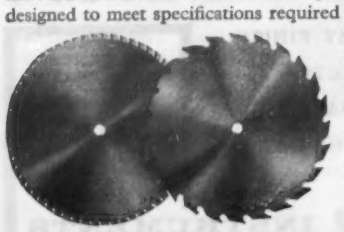
MEYCO MAINLINE: An extra quality, low cost, standard line of saws, 6" to 16" diameters, with the famous UNI-CHIP grind (alternating double bevel and raker teeth) at low, low prices.

MEYCO CUSTOM LINE: Finest quality carbide tipped saws designed to meet specifications required to solve YOUR special problems. Enjoy the production advantages of finest quality MEYCO saws at prices no higher than ordinary carbide tipped blades. Write for Bulletin No. 29



W. F. MEYERS CO., INC., BEDFORD, IND.

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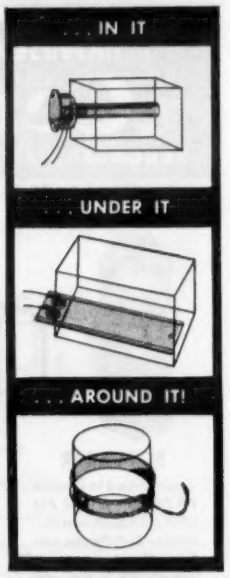
how to apply heat

Electric heating elements for every need



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ACRAWATT — "PRECISION IN HEAT"

20 YEARS APPLICATION ENGINEERING & MANUFACTURING EXPERIENCE

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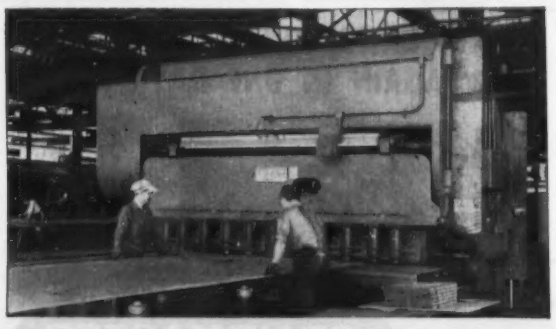

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1. Pivoted-blade operation.
2. Micro-set quick knife adjustment.
3. Electric foot control.
4. Positive mechanical hold-down.
5. All-welded integral frame.
6. Automatic lubrication.

(Also other outstanding features).

Study the details of these fine shears. Then you will understand why so many are being bought.

STEELWELD Pivoted-Blade SHEARS CATALOG No. 2011

Send for free copy of catalog No. 2011.

THE CLEVELAND CRANE & ENGINEERING CO.
6649 East 282nd St., Wickliffe, O.

STEELWELD SHEARS

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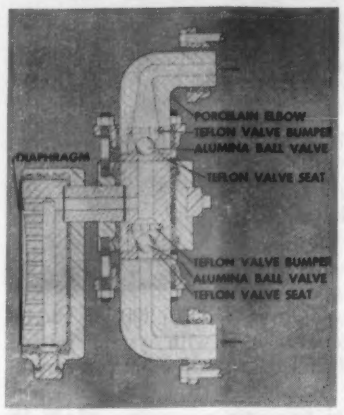
CHEMICAL PUMP HEAD

enables pumps to handle corrosives



Inexpensive means of converting a standard Lapp Pulsafeeder controlled volume diaphragm pump for handling corrosive liquids is provided by the chemical porcelain reagent head. Free of uncombined iron or other metallic impurities, it acts as a transfer medium for corrosive fluids. The liquid is drawn into the suction check valve of the head, then discharged out the discharge check valve of the pump by the action of a hydraulically actuated diaphragm. Any acids except hydrofluoric at elevated temperatures, and most alkalies at moderate temperatures can be handled. Made by **Lapp Insulator Co.**, Process Equipment Div., 104 Hall St., LeRoy, N. Y.

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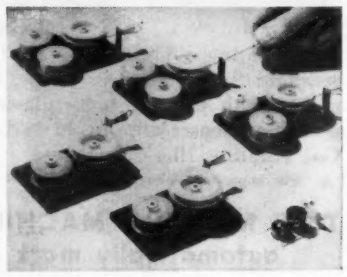
SPRING MOTORS

larger capacity constant torque type



Two Neg'ator constant force springs are used in each of three new Neg'ator spring motors to provide increased output torque. Previously announced models employ a single spring and exert cable retracting forces of 6 oz and 1 and 2 lb. Each stainless steel spring in the new models is mounted on a separate nylon take-up drum, but both exert torque about a single, larger diameter output drum. The dual spring motors have constant output torques of 2.33, 3.12, and 3.90 lb-in. throughout 15 revolutions of the output drum. Constant retracting forces of 3, 4, and 5 lb, respectively, are through the 6-ft cable extensions. All are mounted on a $2\frac{1}{2}$ x $3\frac{3}{4}$-in. black plastic base and are 1.2 in. high. Price is $12. Made by **Hunter Spring Co.**, 1 Spring Ave., Lansdale, Pa.

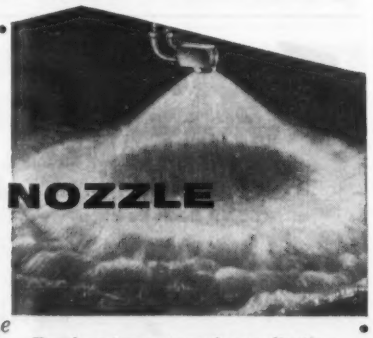
▲ For more details circle NED-711 E9 on enclosed inquiry slip ▲

Air & Hydraulic Controls

Beckett-Harcom Co.—Hi-Cyclic air and hydraulic control valves, subject of illustrated 8-page bulletin, are available in solenoid, manual, mechanical, and pilot actuated types. Complete specifications for various sizes are tabulated, and recommended applications are covered.

▲ For more details circle NED-712 E9 on enclosed inquiry slip ▲

got a **SPRAY NOZZLE** *problem?*



perhaps one of our **DATA SHEETS** *can suggest a solution*

For almost every spraying application, there's a Spraying Systems Data Sheet that gives useful information on suggested installations and types of nozzles to use. If you have a problem, write and let us know the application involved . . . and we'll send the Data Sheet that applies.

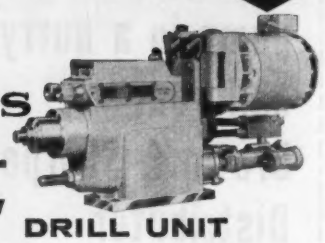
SPRAYING SYSTEMS CO.
3211 RANDOLPH STREET • BELLWOOD, ILLINOIS

And . . . for complete spray nozzle information, write for Catalog 24.

▲ For more details circle NED-713 E9 on enclosed inquiry slip ▲

NEW COST-CUTTING OPPORTUNITY!

HIGH SPEED PRECISION



Bellows "CARBI-DRILL" DRILL UNIT

Use these heavy-duty units in tool room-built special-purpose machinery for high speed precision drilling, tapping, reaming and similar operations. Can be mounted in any position. Runout not over .001" T.I.R. in full 4" stroke. Capacity to ⅝" drill in mild steel. Available spindle speeds from 609 RPM to 6275 RPM. Adjustable "Controlled-Air-Power" advance and retract; adjustable hydraulic feed.

Write today for free 8-page Bulletin CD-17. Address Dept. NED-559; The Bellows Co., Akron 9, Ohio. In Canada, Bellows Pneumatic Devices of Canada, Ltd., Toronto 18.

1326-B

OTHER INDUSTRIAL DIVISIONS OF IBEC: Sinclair-Collins Valve Co., Valvair, Akron, O. V. D. Anderson Co., Cleveland, Ohio

The Bellows Co.
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)
AKRON 9, OHIO

▲ For more details circle NED-714 E9 on enclosed inquiry slip ▲

Take any portable drill ...add a SUPREME

Push-Pull Tapper®

Tap in all materials—fast, safely, accurately—with *minimum* breakage

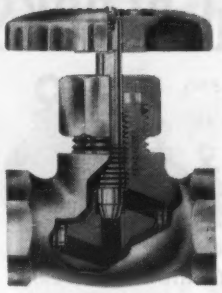
The Supreme PUSH-PULL TAPPER is an instant-reversing speed reduction unit made expressly for tapping. The prize-winning Push-Pull attaches easily to either the spindle or chuck of any drill. Speed reduction of 7:1 gives adequate power to tap in all materials . . . instant-reversing means that tap direction can be reversed without stopping drill. Tap can be moved into and out of the hole at will.

With the Push-Pull tap breakage is minimum. Finger-tip control gives operator a better "feel" for break-causing strains. Complete PUSH-PULL TAPPER Kit, No. 9000, costs just $29.95; includes everything but taps. Write for literature.

SUPREME PRODUCTS CORPORATION
2222 S. Calumet Avenue, Chicago 16, Illinois
A DIVISION OF A•S•R PRODUCTS CORPORATION

▲ For more details circle NED-715 E9 on enclosed inquiry slip ▲

NEW for applications where space is limited and operating areas are close



- accurately controlled
- perfect shut-off
- high pressure

KEROTEST **N-28 GLOBE TYPE NEEDLE VALVE**

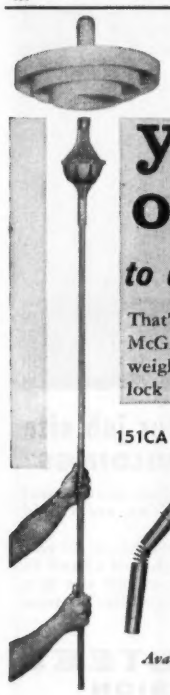
Short, compact, precision-machined, this new Type N-28 Valve is designed for services which demand accurate control.

One-piece forged carbon steel body—12/14 chromium heat treated stainless steel stem, Teflon packing—Maximum working pressure 10,000 p.s.i. at 70°F. Available in sizes 1/8", 1/4", 3/8" and 1/2".

Write for the new N-28 Bulletin

KEROTEST MANUFACTURING CO.
2522 LIBERTY AVENUE, PITTSBURGH 22, PA.

▲ For more details circle NED-716 E9 on enclosed inquiry slip ▲



keep your feet on the floor

to change bulbs in safety

That's exactly how you change bulbs with McGills Adaptable Lamp Changer, for a light weight insulated steel pole in 5' sections that lock securely in place enables you to change bulbs easily up to 20' above the floor. There are 9 different heads available to handle your present bulbs. Why not eliminate the danger of unsafe ladders and save maintenance time and money? You can with a McGill Lamp Changer.

151CA

200

Available from Electrical Wholesalers

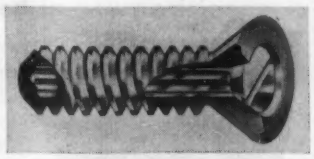
Write for McGILL catalog No. 84

engineered electrical products
McGILL
precision needle roller bearings

McGILL MFG. CO., INC., Electrical Div., 151 N. Campbell St., Valparaiso, Ind.

▲ For more details circle NED-717 E9 on enclosed inquiry slip ▲

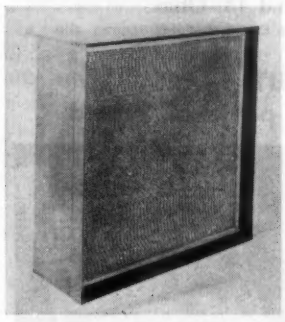
INSULATING SCREW
plastic fastener has metal core



Insulating properties of nylon and the strength of steel are combined in the Insul - Screw. Made with a plastic screw and a metal core, the fastener is also shock resistant, vibration dampening, and chemically inert. The serrated metal core carries the torque applied by the driving means. Various colors and other plastics and metals are available. Made by **Austin Screw Products Co.**, 4873 W. Armitage Ave., Chicago 39, Ill.

▲ For more details circle NED-719 E9 on enclosed inquiry slip ▲

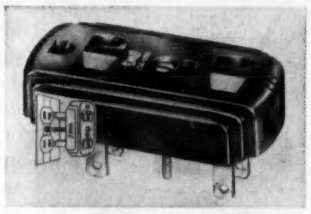
SPACE FILTER
traps 0.3-micron particles



High dust carrying capacity is featured by the Ultra-Aire space filter for high humidity service in product and process control, as well as personnel protection. Unit is 99.97 per cent efficient in removing 0.3 - micron particles. Lightweight, replaceable filter element consists of a continuous sheet of micro fiber web folded to expose 200 sq ft of filter area in the 1000 cfm size. Unit this size holds 5 lb of dust before pressure drop exceeds 2 in. water column. Both filter faces are protected by prefiltering honeycomb structures. Standard plywood, fire retardant plywood, and steel frame units are available in rectangular or cylindrical element constructions. Each model is made in 35, 50, 500, and 1000 cfm sizes. Made by **Mine Safety Appliances Co.**, 220 N. Braddock Ave., Pittsburgh 8, Pa.

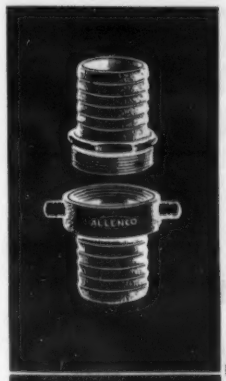
▲ For more details circle NED-720 E9 on enclosed inquiry slip ▲

GROUNDED OUTLET
tap converts standard receptacles



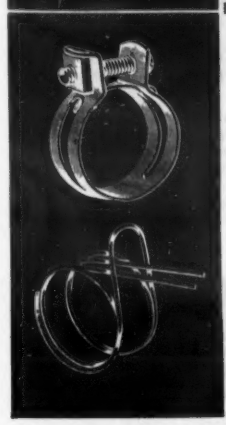
Grounded caps of such electric equipment as air conditioners and portable tools can be plugged into the No. 880 double ground tap, easily fitted into standard receptacles. The wall plate screw is removed, and the ground tap is inserted into the existing outlet. After permanent connection with its own screw into the wall plate screw hole, the outlet will accommodate U-ground caps and standard caps. Unit is rated 15 amp, 125 v and is UL approved. Made by **Eagle Electric Mfg. Co.**, 23-10 Bridge Plaza S., Long Island City 1, N. Y.

▲ For more details circle NED-721 E9 on enclosed inquiry slip ▲



HEAVY-DUTY COUPLINGS
Suction hose? Use Allenco malleable iron couplings with swivels, plated or brass. Steam hose? Use Allenco cast brass couplings with extra heavy semi-finished swivels. Water hose? Use Allenco heavy cast brass coupling with lug or hex.

quality **Allenco** couplings and clamps for every need!



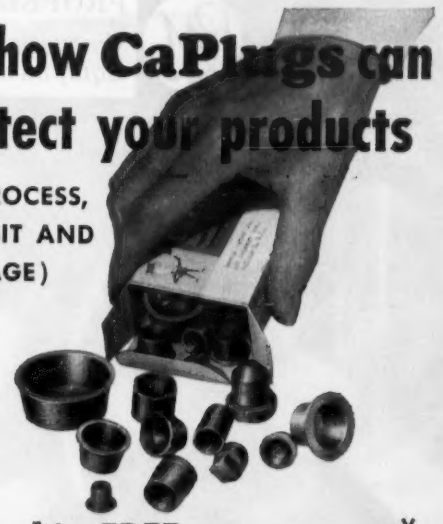
SURE-GRIP CLAMPS
Steel or brass band type can be tightened with one hand — top of clamp is formed to keep nut from turning. Holds hose evenly all around; wide selection of sizes. Double steel wire clamp, with attachment tool, also available in wide selection of sizes.

W. D. ALLEN Manufacturing Co.
650 South 25th Avenue
Bellwood, Illinois
ALLENCO... quality products since 1887

▲ For more details circle NED-722 E9 on enclosed inquiry slip ▲

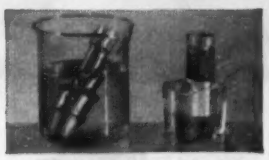
see how CaPlugs can protect your products

(IN PROCESS, TRANSIT AND STORAGE)



test this FREE assortment*

SEE HOW EASY THEY SLIP ON...AND OFF! Made of tough, flexible Polyethylene, tapered (non-threaded) CaPlugs can be used as caps or plugs, inside or outside of threaded or plain fittings. Threaded styles are knurled to spin on or off with ease. Costing less to buy, they cost less to apply.



SEE HOW THEY WITHSTAND ACIDS, SOLVENTS, HEAT AND COLD... and keep out dust and moisture, too. Dunk a CaPlugged product in any solution. CaPlugs are impervious to most common chemical reagents, acids and solvents...withstand temperatures from −94°F. up to 175°F.

SEE HOW TOUGH THEY ARE. For proof, drop a product on its CaPlug...tap it with a mallet...or make a trial shipment of parts with CaPlugs applied. You'll find that these versatile closures provide "kid-glove" protection and will not collapse, chip, break or shred under the most severe of conditions.

***YOU'RE INVITED TO TEST Ca Plugs** in any way you choose. Ten different styles are promptly available in over 500 stock sizes. The coupon below will bring you a random assortment plus illustrated literature. Additional samples in specific sizes for testing are also yours for the asking (details in literature).

MAIL THIS COUPON FOR FREE SAMPLES

CAPLUGS DIVISION
PROTECTIVE CLOSURES CO., INC.
2209 Elmwood Ave., Buffalo 23, N. Y.

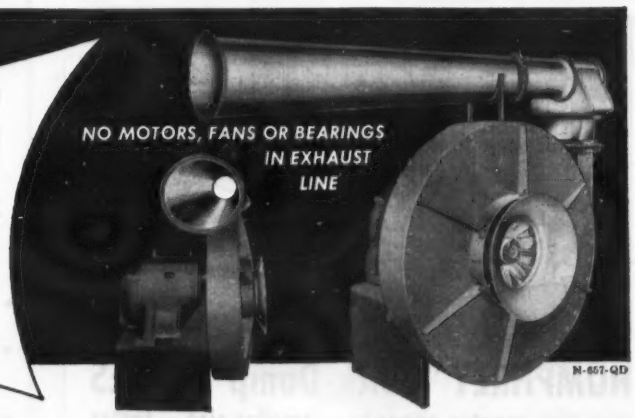
RUSH free assortment of CaPlugs, literature and prices to us.

NAME _____ TITLE _____
FIRM _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

▲ For more details circle NED-723 E9 on enclosed inquiry slip ▲

Now...

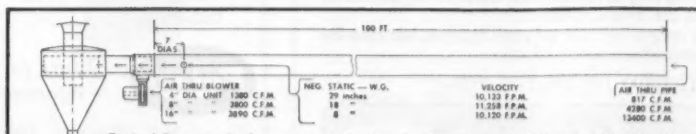
you can reduce bulk materials handling costs with *Quickdraft* high pressure exhausters



FOR MOVING:
Cement, Sand, Iron Oxide, Wheat, Corn, Salt, Limestone, Castor Beans, Knots, Blocks, Paper, Wool, Cotton, Oats, Rags, Rubber, Vegetables, Coal (Powdered), Shavings, Cork, Sawdust . . . **and any other materials that can be moved by air!**

IMPORTANT NOTICE
For resisting abrasive action, Quickdraft units can be rubber lined. For withstanding corrosive gases, all Quickdraft units are available in standard acid resisting vitreous enamel, No. 316 Stainless Steel, rigid plastics (PVC), and with plastic and Fiberglas coatings.

Time and maintenance savings usually pay for Quickdraft high-pressure exhausters in 6 to 18 months on materials handling jobs. Because material does not pass through blower, maintenance is negligible. Downtime for cleaning and replacing fans, motors and bearings is eliminated. Quickdraft units are also ideal for exhausting paint spray, abrasives, corrosive gases, noxious fumes and high temperatures. For Quickdraft engineering data on materials handling, industrial exhausting, heating plant venting, write today!



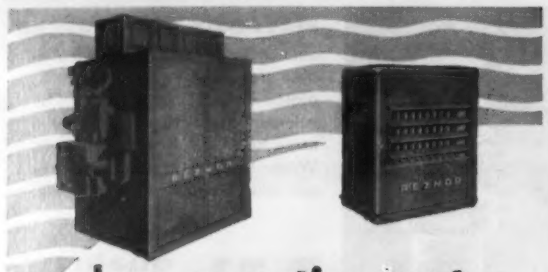
Typical Example: Performance specifications for three Quickdraft Materials Handling Units using same size blower, pulling through 100 ft. of pipe the same diameter as Quickdraft. (Models range from 4 in. to 30 in. diameter—with 1/6 to 600 H.P. motors—with negative static pressures from 1/4 in. to 60 in. W.G.)

Patent Nos. 2,722,372 and 2,855,874. Other Patents Pending.

Quickdraft corporation
P.O. Box 87-L • Canton 1, Ohio

Well known for power draft units for all types of heating plants.

▲ For more details circle NED-718 E9 on enclosed inquiry slip ▲



low operating cost

Fuel cost is the total cost of operating Reznor gas unit heaters — and you pay only for the heat you actually need and use. Reznor heat is produced and distributed right at the point of need . . . eliminating transmission losses and costly stand-by firing of boilers. These completely automatic units don't require a licensed fireman . . . they don't require any operating labor at all.

LOW OPERATING COST is just one of many reasons why Reznor gas unit heaters are right for so many plant heating jobs. Whether you need one heater to eliminate a "trouble" spot or enough units for a complete plant heating system, ask your Reznor distributor for the complete story or write for your free copy of "Modern Heating."

Look for Reznor under "Heaters-Unit" in the Yellow Pages

REZNOR
WORLD'S LARGEST SELLING DIRECT-FIRED
UNIT HEATERS

Reznor Manufacturing Company, 41 Union Street, Mercer, Pa.

For more details circle NED-724 E9 on enclosed inquiry slip

Electronic speed test in Propellair's wind tunnel

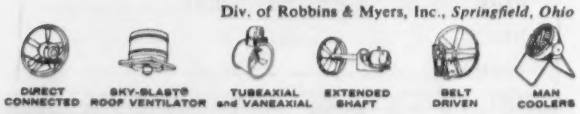
FOR RUGGED DUTY... NEW design axial fans *in sizes up to 60 inches!*

Move corrosive or explosive fumes, extreme heat or high humidity with new PROPELLAIR Type BT belt driven axial fans. They feature heavy 10 and 12-gage drums . . . isolated, air-cooled, protected bearings and belts . . . airfoil propellers cast of hi-strength aluminum-magnesium alloy . . . Robbins & Myers *"All-Weather"* motors for a single nameplate guarantee on the complete unit.

Hi-pressure, big hub propellers are available for those tough applications developing high resistance.

Send today for complete information on this modern, efficient fan. Ask for Bulletin 620—NE

PROPELLAIR®
Div. of Robbins & Myers, Inc., *Springfield, Ohio*



MOVING AIR IS OUR BUSINESS®

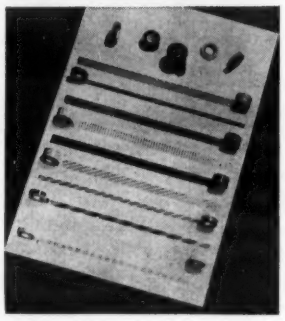
For more details circle NED-725 E9 on enclosed inquiry slip

PLASTIC INSTRUMENT CASES
mold and die costs are eliminated

Instrument carrying cases fabricated from Warlite, a melamine plastic bonded to a composition base, can be made in short production runs at prices competitive with wood or metal. Mold and die costs are eliminated. Material permanently retains its original appearance, provides good electrical insulation, and is both crack and stain resistant. Wood grains are among the 150 different patterns available. Mounting brackets, special built-in fixtures, holes for instrument panels, and other engineered features are provided to customer specification. Made by **Warwick Products Co.**, 1572 Riverbed Rd., Cleveland 13, Ohio.

For more details circle NED-726 E9 on enclosed inquiry slip

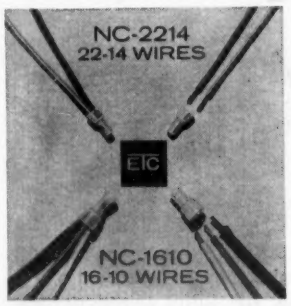
CHARTING & LAYOUT TAPES
more colors and patterns added



Line of solid color and pattern tapes for the Graph-A-Plan system of charting and layout has been broadened to include over 14 brilliant solid colors and 10 different patterns in four colors. Fifty-four solid color and pattern tapes are provided in all. The newly added colors are available in widths from 1/64 to 2 in.; the pattern tapes in 1/32 to 2-in. widths. Made by **Labelon Tape Co.**, 450 Atlantic Ave., Rochester 9, N. Y.

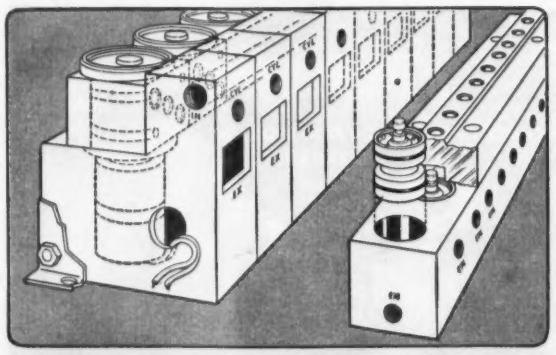
For more details circle NED-727 E9 on enclosed inquiry slip

PIGTAIL CONNECTORS
for two or more wires



Formed of translucent nylon in a closed-end design, ETC insulated solderless connectors are used to pigtail splice two or more wires. Wires are inserted and crimped in a single operation, and cannot be loosened by vibration. Two connector sizes take any number and combination of wires with gages totaling from No. 16 to 10 AWG and No. 22 to 14 AWG, respectively. Special coding colors can be furnished. Made by **Electrix Terminals & Connectors, Inc.**, 990 E. 67th St., Cleveland 3, Ohio.

For more details circle NED-728 E9 on enclosed inquiry slip



HUMPHREY "Quick-Dump" VALVES
give you greater capacity — smaller size — faster action — more versatility and simplicity of design

New Humphrey "Stack-Pack" Electric Manifold Valve—(left). May be used singly or in multiples. Valve mechanism easily removed from manifold. Single inlet port for multiple installations. (Right)—Humphrey Exclusive! Manifold using Insert Valves. Just the internal mechanism of the valve may be inserted in your manifold. Manual, cam or pilot operated.

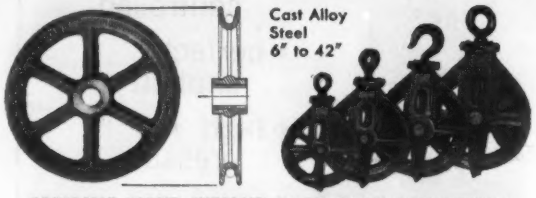
For air, oil, water, gas to 125 PSI. ⅛", ¼", ½" sizes. Also complete valve line of 42 models with conventional actuators. 2-3-4 way.

WRITE TODAY FOR BULLETIN 202-F

Humphrey Products
DIVISION OF GENERAL GAS LIGHT COMPANY "The Heart of Automation"
202 N. PARK ST., KALAMAZOO, MICHIGAN
Pneumatic-Hydraulic Valves and Devices

For more details circle NED-729 E9 on enclosed inquiry slip

DUROLITE WIRE ROPE SHEAVES and BLOCKS



COMBINE LIGHT WEIGHT WITH HIGH STRUCTURAL STRENGTH FOR HIGH SPEEDS AND HEAVY DUTY

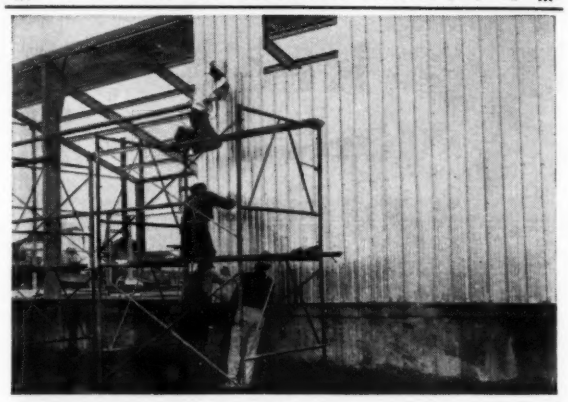
DUROLITE SHEAVES weigh less than other sheaves of same capacity . . . start instantly and stop without spinning . . . incorporate high speed bearings . . . grooves quickly attain smooth polish to check wear on sheave and rope. Available as a separate item or as part of Sauerman Durolite Blocks in stock sizes from 6" to 18" (alloy steel), 20" to 24" (cast steel). Sizes to 54" or specials furnished to specification.

DUROLITE BLOCKS are available in stock sizes from 6" to 42". Larger sizes or specials furnished to specification.

REQUEST BULLETIN 165, SHEAVES, AND CATALOG I, BLOCKS

SAUERMAN BROS., Inc.
646 S. 28th AVENUE, BELLWOOD, ILLINOIS • Linden 4-4892

For more details circle NED-730 E9 on enclosed inquiry slip



3-WEEK DELIVERY... to your job site
TRUSCON STEEL "BUDGET BUILDINGS"

Truscon Steel "Budget Buildings" are the fast, economical way to provide warehousing, enlarge facilities, erect field offices at lowest cost.

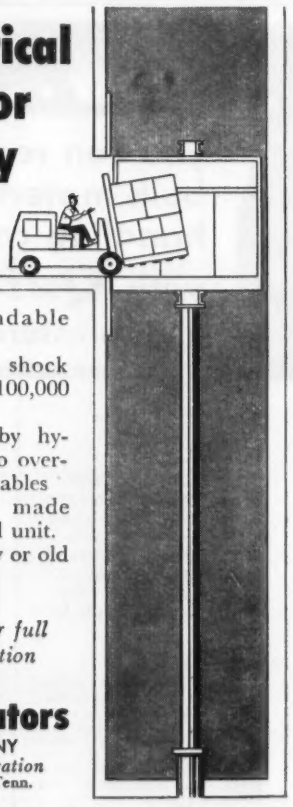
Available in widths of 12 to 28 feet—in heights of 10 and 12 feet. Also widths of 32 to 48 feet—in heights of 12 and 14 feet. All component parts are shipped to your job site as a package. Three-week delivery. Call your Republic-Truscon representative or write.

REPUBLIC STEEL
TRUSCON DIVISION
TRUSCON MARK OF MERIT PRODUCTS
REPUBLIC STEEL
Youngstown 1, Ohio

NAMES YOU CAN BUILD ON

For more details circle NED-731 E9 on enclosed inquiry slip

Most practical elevator for heavy-duty service



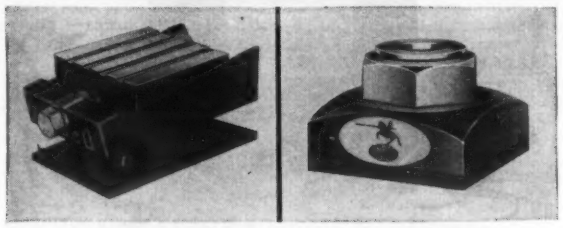
- Economical, dependable hydraulic operation
- Ruggedly built for shock loading . . . 1000 to 100,000 lb. capacities
- Elevator supported by hydraulic system . . . no overhead machinery, no cables
- Adjustments quickly made on one central control unit.
- Easily installed in new or old buildings

Rotary *Write for full information*

Oildraulic® Elevators
ROTARY LIFT COMPANY
Division of Dover Corporation
1022 Kentucky, Memphis 2, Tenn.
Chatham, Ontario

For more details circle NED-732 E9 on enclosed inquiry slip

any new machine deserves an **EMPCO** *leveling jack*



DEPENDABLE MACHINE SUPPORT WITH BUILT-IN PRECISION LEVELING

Installing new machines? *Set* them level, and *keep* them level with EMPCO Leveling Jacks. EMPCO jacks provide a solid, smoothly adjustable foundation for machine tools, large surface plates, automation lines, tool room and production equipment of all types. The result is better machine performance . . . higher precision . . . reduced downtime and maintenance. Where vibration problems exist, use VI-SORB Mounting Pads with your EMPCO Jacks. They control internal and transmitted vibration, reduce noise and prevent creepage (eliminate the need for anchor bolts in many cases). EMPCO Jacks are available in six styles, 25 models. VI-SORB Mounting Pads are cut to fit. Write us about your machine installation problems.

Send Today for Descriptive Bulletin No. 100—
The Enterprise Machine Parts Corporation
2727 Jerome Avenue • Detroit 12, Michigan

EMPCO LEVELING JACKS

▲ For more details circle **NED-733 E9** on enclosed inquiry slip ▲

1 New Door Frame
Intermembered and lapped to resist twisting, stress and strain. Welded for maximum strength.

2 Extra Strong Body
24-gauge prime cold rolled steel. Flanged edges nest to provide rigid corner construction.

3 Handsome New Handle
Functionally designed — chrome finish. Easy and noiseless to operate — cannot be pried from door—shield keeps padlock from marring finish.

4 Extra Strong Hinges
Doors hang firmly on heavy gauge full loop hinges. *Projection welded* to door frame.

5 Quiet
Rubber silencers make Penco lockers noiseless to open . . . silent when closing.

6 Beautiful Surface Finish
Special phosphate pretreatment before painting gives positive surface protection, better paint adhesion.

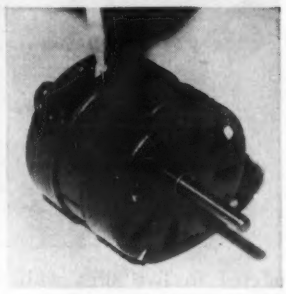
This completely new locker line features smooth, clean lines and quiet, efficient locker performance. An unusual combination of advanced design features insures long, trouble-free locker life. Expertly fabricated from prime steels. Available in 14 styles. 3 standard and 6 optional colors . . . baked on for permanence.

WRITE FOR CATALOG No. 6000
Types—Styles—Sizes—Equipment—Planning Aids—Engineering Details and Specifications

ALAN WOOD STEEL COMPANY
PENCO DIVISION
406 Brower Avenue, Oaks, Pennsylvania

▲ For more details circle **NED-734 E9** on enclosed inquiry slip ▲

FRACTIONAL-HP MOTORS
small units are highly efficient, can be mounted in any position

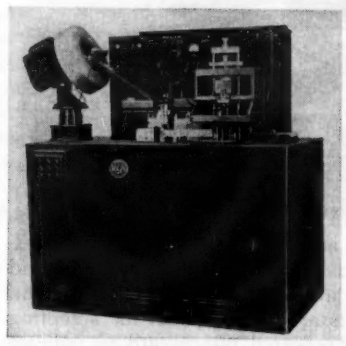


Operating efficiencies made possible through Unitized design contribute to the compactness of this line of small fractional horsepower motors. Designed for use in ventilators, fans, heaters, coolers, air conditioners, and business machines, they use a continuous hydrodynamic oil film to support the motor shaft. Bearings are permanently aligned. High mechanical and dielectric strength resin coats the entire stator core, and laminations are humidityproof.

Motors mount in any position and are offered with various shaft extensions, lead materials, and connections in open and enclosed designs. First models available are four-pole KSM 59-frame shaded-pole and permanent-split capacitor ratings through 1/15 hp. Two-pole shaded-pole ratings through 1/50 hp and universal series motors of various ratings will be available soon. Made by **General Electric Co.**, 1 River Rd., Schenectady 5, N. Y.

▲ For more details circle **NED-735 E9** on enclosed inquiry slip ▲

AUTOMATIC HARDNESS TESTER
checks up to 2500 parts per hour, then separates them by hardness



Extreme accuracy, simplicity of adjustment, and versatility in the range of part sizes handled are features of the RCA automatic electronic hardness tester. Parts are automatically or manually oriented and positioned on the conveyor which carries them to the checking station for transfer one at a time to the penetrator. Depth of penetration causes voltage changes in an RCA gage head.

Thyratron units are set to fire at upper and lower limits, as well as intermediate points, in automatically actuating the segregating gates which classify tested parts into predetermined categories. Signal lights on the control panel continuously indicate the entire operation. Machines are also offered with automatic orienting and feeding of parts, multidimension checking, selective segregation, and counting. Made by **Radio Corp. of America**, Industrial & Automation Div., 12605 Arnold Ave., Detroit 39, Mich.

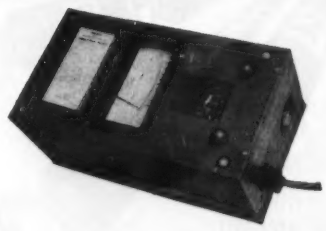
▲ For more details circle **NED-736 E9** on enclosed inquiry slip ▲

NEW

- **Rectifier-Operated from any 115 v, 60 cps Circuit**
- **Single Range, 10,000 megohms at**

SIX-VOLTAGE MEGGER® INSULATION TESTER

500
750
1000
1500
2500
volts d-c



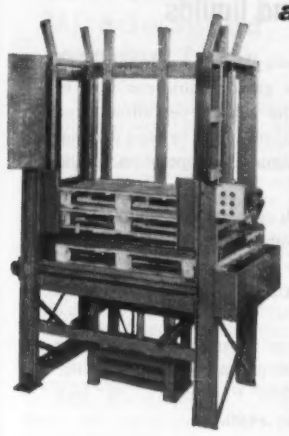
Completely self-contained, one-man operated Megger Instrument designed to meet the growing needs for multi-voltage insulation tests. The new Six-Voltage Megger Insulation Tester is an important addition to the standard Megger Instruments available with up to 3 voltages: the Rectifier-Operated, Single-Voltage model with a range up to 200,000 megohms at 10,000 volts d-c, and the Rectifier-Operated, Triple-Voltage model with a range of up to 100,000 megohms at 5000 volts and 1000 and 2500 volt intermediate ranges. Complete details on the complete Biddle line of Megger Instruments are available on request.

***WRITE FOR BULLETIN* 21-20-D** 8907

JAMES G. BIDDLE CO.
Electrical & Scientific Instruments
1316 ARCH STREET, PHILADELPHIA 7, PA.

▲ For more details circle **NED-737 E9** on enclosed inquiry slip ▲

STANDARD PALLET DISPENSER
releases pallets one at a time — *automatically*



Pallet dispensing made easy—with this fast, automatic unit. Standard-designed to dispense pallets from a stack 12-14 pallets high . . . in any of three directions. Regular fork lift trucks can easily feed or load pallets into the dispenser.

For complete information, see the Standard engineer listed in your phone book, or write Dept. K-5, STANDARD CONVEYOR COMPANY, General Offices: North St. Paul 9, Minnesota.

Standard GRAVITY & POWER CONVEYORS — OVER 50 years of service guarantee

Sales & Service in Principal Cities—In Canada: International Equipment Co., Ltd., Montreal, Toronto, Hamilton, Edmonton and Vancouver.

▲ For more details circle **NED-738 E9** on enclosed inquiry slip ▲

NEW AIRETOOL PNEUMATIC SCREWDRIVERS, NUTSETTERS

THE LATEST IDEAS IN PRODUCTION TOOLS. New design, new engineering, new performance. Both reversing and non-reversing models, straight and pistol-grip types. All are available in a choice of 4 operating speeds. It will pay you to get full information about these important new additions to the Airetool line. Write for Bulletin 68. Airetool Manufacturing Co., Springfield, Ohio.

BRANCH OFFICES: New York, Chicago, Tulsa, Philadelphia, Houston, Baton Rouge
REPRESENTATIVES in principal cities of U.S.A., Canada, Mexico, South America, England, Europe, Puerto Rico, Italy, Japan, Hawaii
EUROPEAN PLANT: Vlaardingen, The Netherlands
CANADIAN PLANT: Brantford, Ontario

AIRETOOL MANUFACTURING COMPANY SPRINGFIELD OHIO

30 years experience in pneumatic tools

▲ For more details circle **NED-739 E9** on enclosed inquiry slip ▲

✓ DEBURRING
✓ CHAMFERING
✓ FACING, POINTING

Handles deburring, chamfering, facing operations simultaneously.

Here is the machine that eliminates the need for tying up expensive lathes and screw machines for deburring rods and tubes, and it profitably replaces such costly methods as hand rolling pieces against a sanding belt or holding them against a rotating brush. The Pines End-Finishing Machine is *fast* and *accurate*. It squares the end, removes all the burr from the inside, and makes a uniform, accurate chamfer on the outside. Women operators commonly deburr up to 800 1-inch tubes per hour. It clamps, feeds, finishes in one motion — leaves one hand free for stock handling. Machine illustrated handles stock up to 2" O.D. Automatic air-clamping units and models for stock up to 5" also available.

FREE BULLETIN
Find out how these machines save space and cut costs on wide range of work.

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery — 641 WALNUT • AURORA, ILLINOIS
PRODUCTION BENDING • DEBURRING • CHAMFERING MACHINERY

▲ For more details circle **NED-740 E9** on enclosed inquiry slip ▲

New Westinghouse FLOREG Valves for accurate flow control of gases and liquids

This new flow regulating valve accurately controls the rate at which a gas or liquid can flow in one direction through the circuit, yet allows free flow in the opposite direction. It can be used to time, to sequence or to co-ordinate the operation of the circuit.

The new valve has high capacity, is easy to adjust, self-cleaning, noiseless, lightweight, and compact. It is of top quality—made with aluminum, stainless steel, and plated steel parts to resist corrosion. Seals are oil resistant.

Working pressures range from 250 psi maximum pneumatic to 500 or 2000 psi maximum hydraulic. Temperatures: —40° to 200° F. Sizes: ¼", ⅜" and ½" N.P.T. **Prices start at $4.00.**

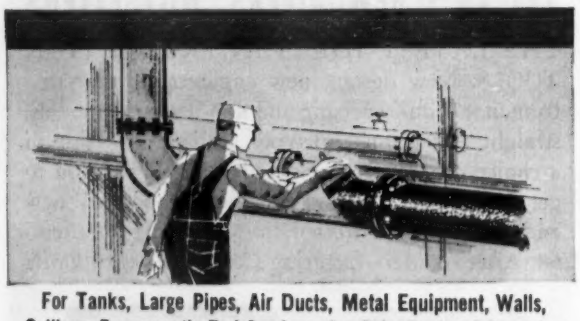
See the yellow pages under Cylinders for the name of your local distributor.

WESTINGHOUSE AIR BRAKE COMPANY
INDUSTRIAL PRODUCTS DIVISION
WILMERDING, PENNSYLVANIA — EMERYVILLE, CALIFORNIA

▲ For more details circle NED-742 E9 on enclosed inquiry slip ▲

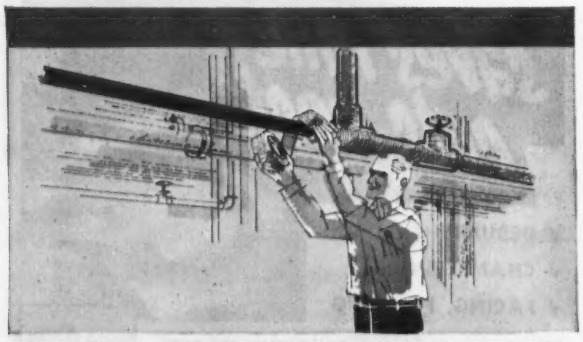
END ALL DRIP AND RUST PROBLEMS IN YOUR PLANT THESE TWO PROVEN WAYS!

Industrial plants know Mortell products offer more positive protection than any other drip-and-rust preventive. Maintenance men know that paints or compounds of paint and fish oil provide little or no permanent protection. Rust-inhibiting NoDrip Plastic Coating is a moisture-proof insulation that *does* stop condensation . . . forms a seamless jacket . . . *does* stop corrosion. NoDrip Tape, with its triple insulating barrier, is equally dependable.



For Tanks, Large Pipes, Air Ducts, Metal Equipment, Walls, Ceilings, Permanently End Condensation Drip, Rust and Corrosion With NoDRIP PLASTIC COATING

The heavy consistency of NoDrip outlasts many coats of paint or ordinary rust-preventives. Permanently insulates and protects. Applies easily with trowel, brush or special spray. Non-toxic, odorless and non-flammable. Resists acid, alkali, brine solutions or vapors. Available in 1, 5 and 55 gallon drums.



For Smaller Pipes or Tubing, Permanently End Condensation Drip, Rust and Corrosion With NoDRIP TAPE

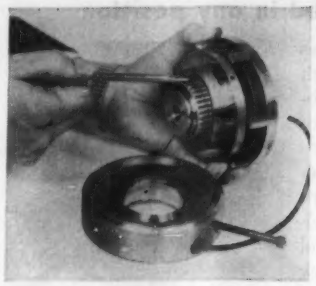
An easy-to-use, wrap-around pipe covering, perfectly pliable, cork-filled, completely self-adhering. Forms an air-tight, 100% vapor- and moisture-proof jacket. Fits snugly even around tees, unions, angles, valves. Cuts maintenance costs—makes out-of-the-way storage areas useable—ends slip and slide floor hazards. No need for vapor seals, brads, fasteners or tools of any kind.

At all leading hardware, mill supply and plumbing jobbers. For complete information and technical handbook, write

Mortell COMPANY
526 Burch Street · Kankakee, Illinois

▲ For more details circle NED-743 E9 on enclosed inquiry slip ▲

MAGNETIC CLUTCH requires no air gap adjustment

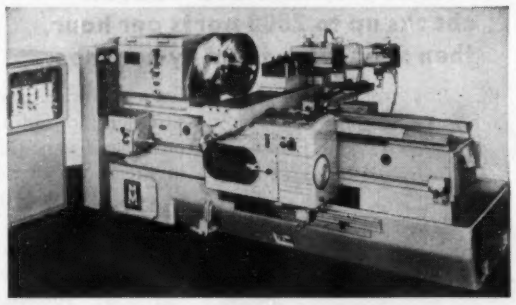


Closed flux path through hardened steel laminations eliminates the need for adjusting air gaps in this stationary field magnetic clutch. It can be inaccessibly placed in a machine drive box or transmission since it needs no service. The EC-S Series clutch is offered in five sizes with torque ratings from 14 to 290 lb-ft. Additional ratings will be announced. Applications include speed changing, feed drives, brakes, and couplings in various machine tools and drive systems in washing, pulverizing, printing, packaging, conveying, welding, and stripping machines. Made by **I-T-E Circuit Breaker Co.**, 1900 Hamilton St., Philadelphia 30, Pa.

▲ For more details circle NED-744 E9 on enclosed inquiry slip ▲

MACHINE PROGRAM CONTROL punch-card automatic system controls up to 20 operations

The Eltropilot universal program control of this high production lathe provides preset, automatic control of all tool movements on saddle, cross-slide, copy attach-



ments, drilling units, and turret. Spindle speed, feed, feed direction, and rapid traverse; machine loading; and machine stopping are also controlled by the Eltropilot.

System's components are a plug panel for accepting and issuing orders, a prepared punch-card to indicate correct placement of plugs in panel sockets, and interchangeable tip dogs set in cam plates according to desired dimensions. The Eltropilot can store 60 commands and control 20 operations, with infinite combination of 20 commands for any operation. For each new component, only the punch chart and trip dog position need be changed.

Working cycle can be interrupted at any time, and built-in safety devices check all operations. Failures are pin-pointed by signal lamps. The Eltropilot will control all machines having electric motors, electromagnetic clutches, hydro-magnetic valves, and similar remotely controllable units. Distributed by **Cosa Corp.**, 405 Lexington Ave., New York 17, N. Y.

▲ For more details circle NED-745 E9 on enclosed inquiry slip ▲

mark any wire — faster, at lower cost!

BRADY PERMA-CODE WIRE MARKERS

Self-sticking — go on fast to any type wire. Tell which wire goes where. Cost less than ⅛¢ per lead. All-vinyl, polyester film, glass cloth, aluminum foil, vinyl-cloth. Color coded to meet NEMA specifications.

Write for free working samples — and Bulletin 130.

W. H. BRADY CO.
Manufacturers of Quality Self-Sticking Industrial Products.
781 West Glendale Avenue • Milwaukee 9, Wisconsin • Est. 1914

67

▲ For more details circle NED-746 E9 on enclosed inquiry slip ▲

Quick delivery on small Clevelands

● Order for prompt shipment from our factory stock of small Cleveland Worm Gear Speed Reducers. You can select a design from our standard ratio units to serve almost any purpose.

All Clevelands are made with hardened and ground steel worms, nickel bronze gears, anti-friction bearings throughout, and accurately jigged one-piece malleable iron housings.

Enjoy the superior performance of high-quality Cleveland Worm Gear Speed Reducers. Get current prices and full engineering data for your file.

Write for Bulletin 114F and Prices

The Cleveland Worm & Gear Co.
3283 East 80th St.
Cleveland 4, Ohio

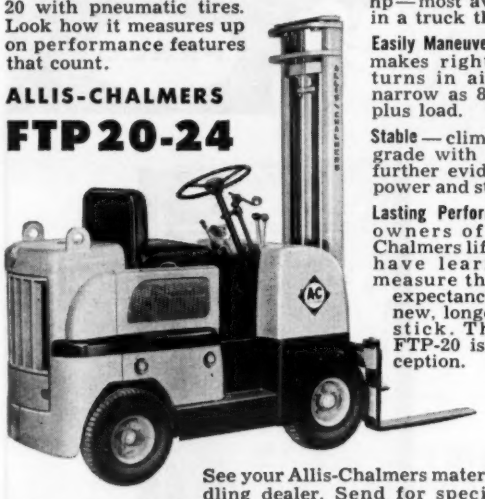
CLEVELAND Worm Gear *Drives*

▲ For more details circle NED-747 E9 on enclosed inquiry slip ▲

NEW 2,000-LB LIFT TRUCK NOW AVAILABLE WITH PNEUMATIC TIRES

The new Allis-Chalmers FT-20 lift truck is now available as Model FTP-20 with pneumatic tires. Look how it measures up on performance features that count.

ALLIS-CHALMERS FTP20-24



Plenty of Power — heavy-duty industrial engine has 35 hp—most available in a truck this size.

Easily Maneuverable — makes right-angle turns in aisles as narrow as 83½ in., plus load.

Stable — climbs 34% grade with load — further evidence of power and stability.

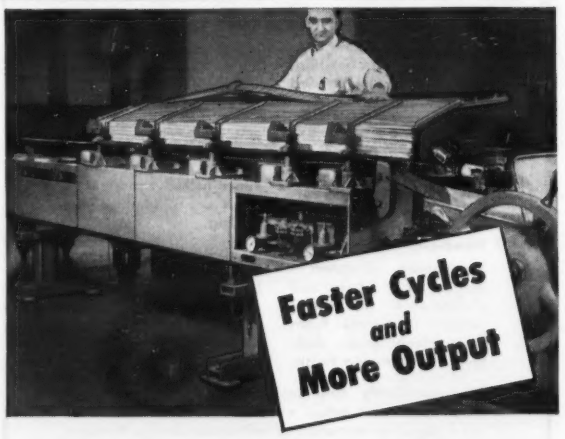
Lasting Performance — owners of Allis-Chalmers lift trucks have learned to measure their life expectancy with a new, longer yardstick. The new FTP-20 is no exception.

See your Allis-Chalmers material handling dealer. Send for special new bulletin BU-493. Allis-Chalmers, Milwaukee 1, Wis.

ALLIS-CHALMERS

BH-109

▲ For more details circle NED-748 E9 on enclosed inquiry slip ▲



LIPE ***Automatic Machine Loading Bar Feeds*** can increase production of your automatics 40%, 90%, even 200%. Continuous, automatic feed of stock of any length, shape or material in close-tolerance feedouts. Eliminates time and energy consuming hand-loading. Frees operators for finer work on quality . . . machine set-ups . . . care of tools. Write or phone for full information.

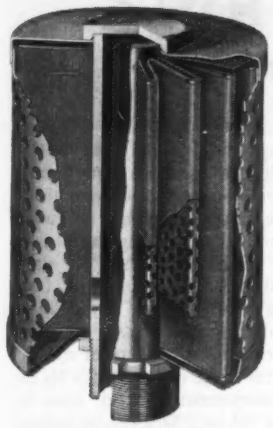
Lipe-ROLLWAY CORPORATION SYRACUSE 1, N.Y.

PIONEERS IN PNEUMATIC BAR-FEEDING

▲ For more details circle NED-749 E9 on enclosed inquiry slip ▲

NEW SUMP OIL FILTER

for hydraulic and lube oil systems



● Screen wire mesh reinforced by pleated perforated metal provides greatly extended filtering area. This results in lower pressure drop, larger dirt capacity. Entire unit protected by perforated cover to prevent accidental damage. A wide choice of bronze, monel, or stainless media provides various degrees of positive filtration. Capacities from 1 to 100 gpm, male or female connection. Write for Specification Sheet OCO-1057. **AIR-MAZE CORPORATION,** Cleveland 28, Ohio. Dept. NE-5.

▲ For more details circle **NED-750 E9** on enclosed inquiry slip ▲

AJUSTRITE®

SPLIT SECOND ADJUSTMENT... to any Height Desired

SWINGING BRACKET STOOLS and CHAIRS

FOR MOUNTING ON TABLE, BENCH, WALL OR MACHINE

The seat raises and lowers a total of 8 inches. The bracket swings 15½ inches from attaching plate. Contains all the adjusting features of regular AJUSTRITE chairs. Made of 16 ga. steel tube—electrically welded and equipped with nylon bearings—lifetime lubricated. Tested with 600 lb. load. Special mounting brackets to serve many individual needs.

ADVANTAGES OF SWINGING BRACKETS

(a) Allows each worker to swing in as close to his operation as he may care to. (b) Keeps chairs off of floors. (c) Stops interchange of chairs from one department to another.

30 DAY FREE TRIAL ——— 10 YEAR GUARANTEE

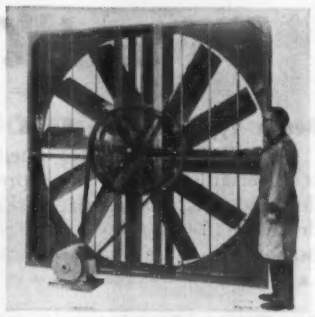
AJUSTO EQUIPMENT CO.

515 Conneaut St. **Bowling Green, Ohio**

▲ For more details circle **NED-751 E9** on enclosed inquiry slip ▲

GIANT WALL FANS

for cooling and ventilating uses



Offered in diameters of 8 and 9 ft, Type SX giant wall fans are designed for general ventilation and cooling of industrial plants and for large-volume air circulation. When driven by 3 to 15-hp motors, they handle from 80,000 to 154,000 cfm, free air. Having sealed ball bearings and balanced fans, they operate quietly through V-belt drive which places motor out of air stream. Made by **American Coolair Corp.,** 3604 Mayflower Rd., Jacksonville 3, Fla.

▲ For more details circle **NED-753 E9** on enclosed inquiry slip ▲

MECHANICAL FLOOR MAT

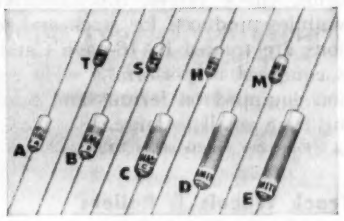
automatically cleans shoe bottoms

Foot pressure on the Modern Mechanical Mat sets a bank of nylon brushes into action cleaning the bottom of user's shoes. Mat is a 1-yd square aluminum grille, with ¼-hp motor and twenty 30-in. brushes mounted underneath. Driven by an eccentric, brushes reciprocate at 432 strokes per min. Brush tips, extending through the grille, scrub the entire sole and heel area. Dirt falls into a pan. Mat is hinged to floor on one side to allow raising the entire unit for maintenance. Brush bristles are available for regular or heavy-duty service. Made by **Progressive Engineering Co.,** Holland, Mich.

▲ For more details circle **NED-754 E9** on enclosed inquiry slip ▲

TANTALUM WIRE CAPACITORS

0.075 x 0.255-in. size added to line



Case Size H, added to Series TW tantalum wire electrolytic capacitors, measures 0.075 x 0.255 in. overall. It has 0.01 to 8 mfd capacitance range. Overall range of the line, consisting of nine sizes, is 0.01 to 80 mfd and up to 150 v dc, depending upon capacitance. Larger units are still subminiature in size, yet can be used to replace foil and slug units with substantial savings in space. They operate in temperatures from −55 to 85° C, are insulated with Mylar plastic, and have axial leads. Made by **Ohmite Mfg. Co.,** 3672 Howard St., Skokie, Ill.

▲ For more details circle **NED-755 E9** on enclosed inquiry slip ▲

New Stanley SURFORM® Miracle Speed Forming Tools

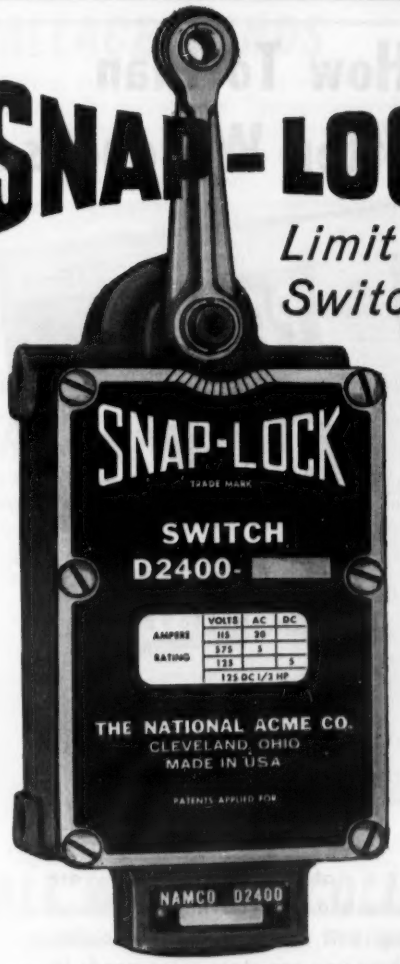
Now you can choose from 6 SURFORM tools for forming and trimming all kinds of materials. **File Type SURFORM** is furnished with fine cut flat blade and with regular cut half-round blade as shown here; it is also available with regular cut flat blade, and can be fitted with fine cut half-round blade.
Plane Type SURFORM is furnished with regular cut flat blade and can be fitted with all others.
Pocket SURFORM is furnished with fine cut flat blade as shown.
Convex SURFORM is furnished with fine cut flat blade as shown here, and can be fitted with regular cut flat blade.
Replacement blades are available for all tools.

Stanley Tools, Division of The Stanley Works
New Britain, Conn.

STANLEY®

▲ For more details circle **NED-756 E9** on enclosed inquiry slip ▲

SNAP-LOCK Limit Switches



Actuate Two Circuits Simultaneously... Without Special Linkage

The D-2400 series Snap-Lock Limit Switches with two normally open and two normally closed contacts permit making or breaking two individual circuits simultaneously. Mounting problems are simplified, special linkages eliminated and costs kept to a minimum.

Snap-Lock Limit Switches were originated by National Acme to meet the severe mechanical and electrical conditions imposed by all types of machine tools. The outstanding simplicity and ruggedness of these water and oil tight switches make them adaptable to the toughest heavy-duty assignments.

Four basic models with a wide variety of actuating levers will handle up to 5 amps, 600 volts, AC. For complete details, parts list, and scale drawings, write for Bulletin EM-5824.

National Acme THE NATIONAL ACME COMPANY 182 E. 131st STREET CLEVELAND 8, OHIO

Sales Offices: Newark 2, N. J., Chicago 6, Ill., Detroit 27, Mich.

▲ For more details circle **NED-757 E9** on enclosed inquiry slip ▲

Silly? Maybe—but, there's a lot of truth in that statement because Witt cans are built to withstand the roughest treatment . . . to outlast ordinary cans 5 to 1. They're straight-side, deep-roll corrugated cans, built of heavy duty steel and then hot-dip galvanized after fabrication. These exclusive features make Witt cans tip-proof, leak-proof, crush-proof, practically indestructible.

From the snug fitting, rugged lids to the solid beaded bottom bands, Witt cans are your best buy. So, make sure—drop us a line for the name of our distributor in your neighborhood.

"ORIGINATORS OF THE CORRUGATED CAN" **WITT** *Cans*

THE WITT CORNICE CO., 4468 STEEL PLACE, CINCINNATI 9, OHIO

▲ For more details circle **NED-752 E9** on enclosed inquiry slip ▲

ALL WEIGHING IS DONE ON YOUR CRANE HOOK
ENGINEERED AND BUILT FOR LONG SERVICE-LIFE
THERE ARE 110 MODELS IN THE COMPLETE LINE
TARE ADJUSTING KNOBS FOR NET LOAD READING
EASY-TO-READ DIALS AVAILABLE IN 3 SIZES

HYDROSCALES *guaranteed*
They are guaranteed to be free of defects in workmanship and materials, and to be accurate to ½ of 1% of the maximum dial capacity

HERE ARE SOME TYPICAL WEIGHING APPLICATIONS
Just a few of the many applications include — loading, unloading, check weighing, batching, foundry charging, and protecting your equipment from overloading.

HYDROWAY SCALES, INC.
31288 Stephenson Highway • Royal Oak, Michigan
"The world's largest producer of crane scales"
▲ For more details circle NED-758 E9 on enclosed inquiry slip ▲

How To Plan A Better Warehouse

Here . . . at your fingertips . . . are the dollar-and-space-saving facts about handling unit loads in narrow aisles. Learn how you can store more goods in your present warehouse. Increase capacity as much as 50% . . . make new floor space more productive with narrow aisles. This new 24 page reference book contains complete specifications of Raymond hydraulic and electric pallet handling trucks for every size and type of operation. Profusely illustrated. Send for your FREE copy today!

RAYMOND

The RAYMOND CORPORATION
4184 Madison St., Greene, N. Y.

FREE . . . "Pallet Handling in Narrow RAYMOND Aisles"

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____
▲ For more details circle NED-759 E9 on enclosed inquiry slip ▲

New Literature and Catalogs

Bench Type Marking Press
Geo. T. Schmidt, Inc.—The Model 10-T Pneumark is a versatile impact bench press which is specifically designed for production marking of steel parts. It develops 10-ton pressure and operates on 20 to 100-psi air. Full details are contained in 4-page bulletin.
▲ For more details circle NED-760 E9 on enclosed inquiry slip ▲

Air Filters, Regulators & Lubricators
Arrow Tools, Inc.—Catalog 50 on pneumatic accessories has 20 pages of performance and other information on line of accessories for filtering, lubricating, and regulating flow in air or gas lines. Sizes are available for ¼ to 1-in. pipe sizes. Details of accessories and combination assemblies complete this buying guide.
▲ For more details circle NED-761 E9 on enclosed inquiry slip ▲

Carbide Tools & Inserts
Willey's Carbide Tool Co.—40-page Catalog MT-059 gives information on solid carbide blanks, indexable throw-away inserts, on-end inserts, Pentagon indexable inserts and tool holders, and standard brazed-on single point tools.
▲ For more details circle NED-762 E9 on enclosed inquiry slip ▲

Wire Products
H. K. Porter Co., Riverside-Alloy Metal Div.—Various types of iron, steel, and nonferrous wire produced for bookbinding, packaging, textile, wire weaving, and other industries as well as available sizes are covered in 6-page folder entitled, "Prentiss Wire Products." Included is a handy wire gage table showing both Washburn and Moen gages and Brown and Sharpe gages.
▲ For more details circle NED-763 E9 on enclosed inquiry slip ▲

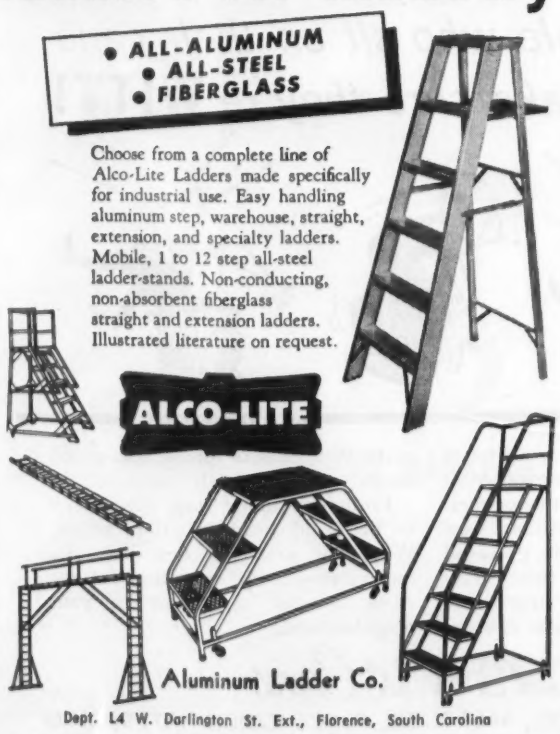
Tube Fabrication & Oilers
Eynon-Dakin Co.—Oilers, oil cups, vent tubes, tube forms, check valves, tube assemblies, and special assemblies produced for stock and to customer specifications are treated in 16-page Catalog B-59. Company is equipped to perform a wide range of tube fabrication equipped on ferrous and nonferrous tubing ranging from small to large.
▲ For more details circle NED-764 E9 on enclosed inquiry slip ▲

Track Wheels & Rollers
C. O. Bartlett & Snow Co.—Track wheels and rollers used on materials handling equipment, industrial cars, trippers, larries, conveyors, and other track or rail-supported machinery are detailed in Catalog 34. They have single or double flanges, straight faces, and are available self-lubricated. Diameters range from 2 to 36 in.
▲ For more details circle NED-765 E9 on enclosed inquiry slip ▲

ladders for industry

• ALL-ALUMINUM
• ALL-STEEL
• FIBERGLASS

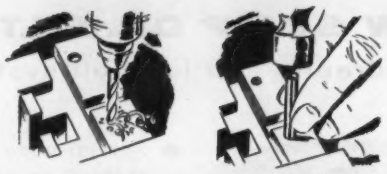
Choose from a complete line of Alco-Lite Ladders made specifically for industrial use. Easy handling aluminum step, warehouse, straight, extension, and specialty ladders. Mobile, 1 to 12 step all-steel ladder-stands. Non-conducting, non-absorbent fiberglass straight and extension ladders. Illustrated literature on request.



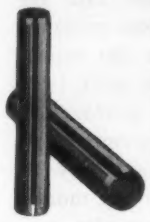
ALCO-LITE

Aluminum Ladder Co.
Dept. L4 W. Darlington St. Ext., Florence, South Carolina
▲ For more details circle NED-766 E9 on enclosed inquiry slip ▲

Cut fastening costs



Just drill and drive SEL-LOK spring pins



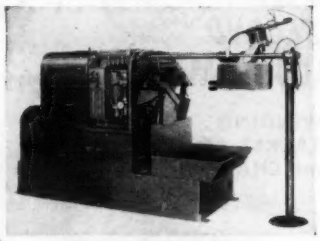
Drill an ordinary-tolerance hole. Drive a SEL-LOK. Spring action makes these slotted tubular pins self-locking, keeps them tightly in place, despite impact and vibration. They eliminate costly tapping, reaming, peening and milling, as well as the rejects associated with close tolerances. They simplify design and reduce assembly time. Use SEL-LOK spring pins as axles, keys, hinge pins, cotter pins, pivots or stop pins—in metal assemblies or in products of nylon, Bakelite, hard rubber or fiber. Full range of sizes (1/16 x 3/16 to ½ x 5 in.) in carbon and corrosion-resistant steel. Also in beryllium copper (1/16 x 3/16 to ¼ x 3½ in.). Stocked by industrial distributors. Write for new Bulletin 2331. STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

SPS Jenkintown • Pennsylvania
Standard Pressed Steel Co. • The Cleveland Cap Screw Co. • Columbia Steel Equipment Co., Inc. • Nutt-Shel Corporation • SPS Western • Standco Canada Ltd. • Unbrako Socket Screw Co., Ltd.
▲ For more details circle NED-767 E9 on enclosed inquiry slip ▲

FASTER AUTOMATIC CUT-OFF Tubing, Pipe and Bar Stock

The Modern Way

Automatic operation — from loading to final cut-off. Handles solid bar stock up to 3" O.D.—tubing up to 8" O.D. Cuts any material that can be turned. 16 spindle speeds.



CATALOG
Has complete specifications of all models. Illustrates parts that are being formed, grooved, flanged or chamfered and cut off in a single operation at a high rate of speed. Also describes the automatic feeder, hot spinning machine for sealing ends of tubing, and the Modern Safety Drill Table.

108 WRITE

MODERN MACHINE TOOL CO.
2005 Losey, Jackson, Michigan
▲ For more details circle NED-768 E9 on enclosed inquiry slip ▲

HENRY & WRIGHT DIEING MACHINES

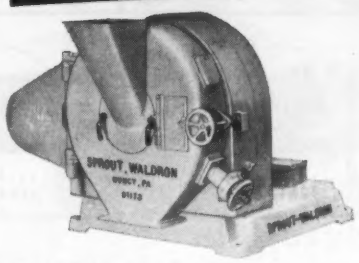
NEW CATALOG

NEW BLANKING PRESSURE CHART

Send today for this new, information-packed catalog on Henry & Wright Double Crank Dieing Machines. See how new H&W progressive dieing machines meet your requirements of reduced operating costs, faster production, less downtime and longer die life. Ask for this handy blanking pressure chart, too, without obligation of course.

THE HYDRAULIC PRESS MFG. COMPANY
A Division of Koehring Co., Mount Gilead, Ohio, U.S.A. H911
▲ For more details circle NED-769 E9 on enclosed inquiry slip ▲

SPROUT-WALDRON
PELLET MILLS



Pelleting minimizes dusting; helps preserve original moisture content, chemical analysis and other properties; turns difficult to handle powders into free-flowing material which is easy to dry, cool, bin, sack and package; reduces storage space; adds sales appeal. For economical pelleting, specify a S-W Pellet Ace. Bulletin 182-A gives the facts.

EP/101

SPROUT-WALDRON
Manufacturing Engineers Since 1866
MUNCY, PA.
EQUIPMENT FOR SIZE REDUCTION—MIXING & BLENDING — BULK MATERIALS HANDLING — PELLETING & CUBING — PRODUCT CLASSIFICATION

▲ For more details circle NED-770 E9 on enclosed inquiry slip ▲

New Processes and Materials

RECOIL-ACTION HOSE
made of nylon to withstand 400 psi

Suited for pneumatic and low pressure hydraulic applications, Nycoil nylon hose self-coils to incorporate a recoil - action. It has good heat and abrasion resistance and is unaffected by oil, kerosine and gasoline. Light in weight, it has low pressure drop, long service life, and will withstand up to 4000-psi working pressure. The 3/16, 1/4, and 5/16-in. ID sizes are packaged in 25-ft lengths with 1/4-in. MPT flare fittings on each end. Shorter lengths can be cut and flared with a standard flaring tool. Made by **Nycoil Co.**, Box 296, Westfield, N. J.

▲ For more details circle NED-773 E9 on enclosed inquiry slip ▲

RESIN STRIPPING COMPOUND
speeds potting, cleans utensils

Accumulated epoxy and polyester resins and rubber compounds on utensils, spatulas, syringes, table tops, and workpieces can be removed by Monastrip EP. Originally developed for removal of resins from potted components and circuits, the stripping compound cleans tools by use of a brush or swab. It can be forced through syringes or pressure guns. Action on resins in various stages of curing is rapid. Made by **Mona Industries, Inc.**, 65 E. 23rd St., Paterson 4, N. J.

▲ For more details circle NED-774 E9 on enclosed inquiry slip ▲

CONCRETE SCARIFIER
etcher facilitates repairs, patching

Furnished as a brown powder which is mixed with water, Scar is a strong acid which will quickly etch concrete prior to painting. It will also scarify or roughen concrete surfaces to simplify repairing, patching, or resurfacing. The resulting rough surface presents a toothy texture to assure a quick, secure bond. It can also be used to clean mortar from brick and tile, and is reported to be less corrosive than muriatic acid on metal. Picture compares treated and untreated surfaces. Made by **St. Louis Laboratories**, Box 8612, Sugar Creek 21, Mo.

▲ For more details circle NED-775 E9 on enclosed inquiry slip ▲

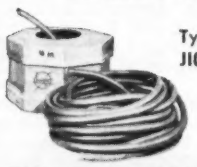
All the installation speed of Flexible Conduit, ...All the protection of Rigid Conduit...with

LIQUATITE®

Extruded Polyvinyl Jacket Molded to Galvanized Flexible Conduit

Complete protection against any and all contamination—impervious to water, oils, chemicals, corrosive atmospheres. Installed in minutes. No more "down-time" due to wiring shorts or burn-outs, no more periodic wiring replacements.

Write for free sample, costs and name of Distributor nearest you.



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UNDERWRITERS' APPROVED

ELECTRI-FLEX COMPANY
P. O. BOX 128-H • ROSELLE, ILLINOIS

▲ For more details circle NED-771 E9 on enclosed inquiry slip ▲

Here's How You Can
DIRECTLY
Compare Impedances
Magnitude on One Meter — Phase Angle on Another Meter

IMPEDANCE RANGES:
Resistance: 2 Ohms to 20 Megohms
Capacitance: 40 μμf to 500 μf
Inductance: 20 μh to 10,000 μh

METER RANGES:
Impedance-Magnitude Differences: 0.3%, 1% and 10%
Phase-Angle Differences: 0.003, 0.01, 0.03 and 0.1 radians

INTERNAL TEST FREQUENCIES:
100, 1000, 10,000 and 100,000 cycles

TYPE 1605-A Impedance Comparator: $790

Write for Complete Information

GENERAL RADIO COMPANY
275 Massachusetts Avenue, Cambridge 39, Massachusetts, U.S.A.
Broad Avenue at Linden, Ridgefield, N. J. NEW YORK AREA 1000 N. Seward St. LOS ANGELES 38
8055 13th St. Silver Spring, Md. WASHINGTON, D. C. 1150 York Road, Abington, Pa. PHILADELPHIA
1182 Los Altos Ave., Los Altos, Calif. SAN FRANCISCO 6605 W. North Ave., Oak Park, Ill. CHICAGO
In CANADA: 99 Floral Parkway, TORONTO 15

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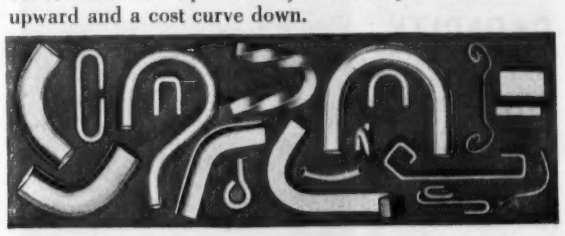
WALLACE BENDS

give tubing, pipe, structural shapes and solids the contour you need for the use intended. That is why production men have been bringing bending problems to Wallace since 1896. It is the time-proved way to bend a production curve upward and a cost curve down.



WALLACE BENDERS

serve outstanding metal fabricators the world over, many of them exclusively. The complete Wallace line includes ram benders, rotary and roll benders, automatic and manually operated, in the widest range available. For the job you do, Wallace builds exactly the bender you need.

FROM YOUR DESK OR SHOP, ANYWHERE

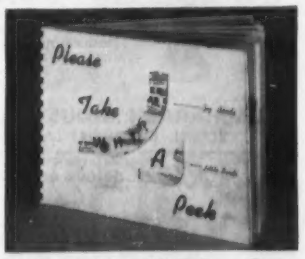
CALL WALLACE COLLECT
BUckingham 1-7000, Chicago

Ask for Bob Baxter. It's the quick, direct way to expert help on a bending problem. No charge to you. Wallace pays. Call Bob Baxter now.

SEE BENDING AS OTHERS DO IT

Pictures of actual bending operations abound in the Wallace "Take A Peek" Book. It's free. Get your copy.

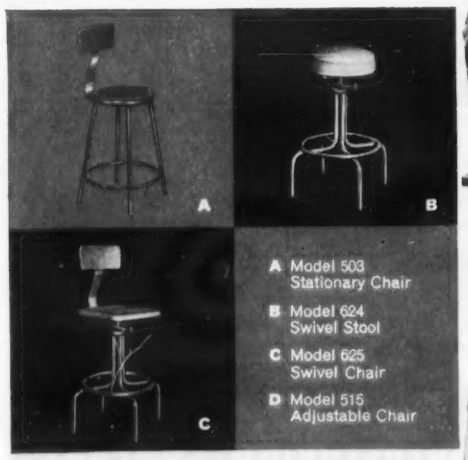
Phone or Write
Bob Baxter



WALLACE SUPPLIES MFG. CO.
1312 W. Wolfram Street • Chicago 13, Illinois

▲ For more details circle NED-777 E9 on enclosed inquiry slip ▲

Royal®



INDUSTRIAL SEATING

speeds production and improves efficiency

Worker alertness saves money in many ways—greater output, fewer rejects, less spoilage—and there's no better cure for mid-afternoon slump than right-posture *Royal* seating . . . the chairs and stools that last longer, look better, because that's the way *Royal* builds them.

ROYAL ORIGINATED POSTURE-SEATING FOR INDUSTRY

In the 29 *Royal* models, there's one just right for every job . . . at machines or assembly benches . . . for drafting, stock, and shipping rooms . . . in shop offices. Fixed or adjustable heights. Exclusive Royal *Micro-Hite* control. 4-way adjustable chair backs. Contour, flat, or padded seats. Look to *Royal*, too, for metal storage cabinets and the world's finest office seating.

ROYAL METAL MANUFACTURING CO.
One Park Avenue, New York 16, N. Y., Dept. 41E

write for free catalog No. 7001

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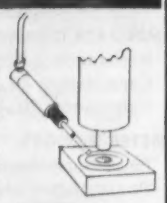
QUALITY DIE CLEANING at LOWER COST!

NEW HOLLOW SHAFT

SPRING RETURN • STUD MOUNT • 9/16" or 3/8" BORE

Clippard Minimatic TRADE MARK

AIR CYLINDERS



Having dirty die trouble? New Clippard HOLLOW SHAFT Spring Return MINIATURE AIR CYLINDERS can solve your problem quickly . . . inexpensively . . . and be used to lubricate dies at the same time!

In punch press diagram at right, CLIPPARD HOLLOW SHAFT cylinder is cycled in extend into bottom die on up stroke, blasting stream of air and mist of lubricant through hollow shaft. This kicks out chips and work piece and lubricates die for next punch. On down stroke of press, cylinder shaft retracts for clearance.

In automated circuitry and semi-automated work positions, the uses of Clippard MINIATURE Air Valves, Cylinders, Valve Solenoids, Accessories and Fittings are unlimited. Quality is high. Prices are reasonable. Send for complete literature on Clippard MINIMATICS, today.

Write NOW for NEW Bulletin MA

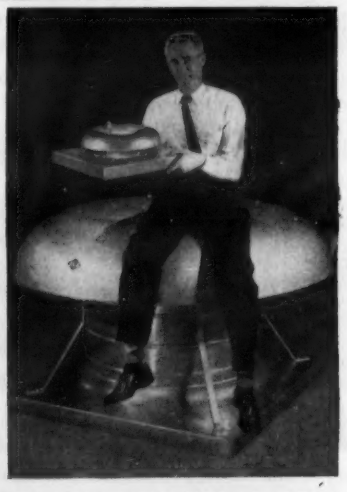
Clippard INSTRUMENT LABORATORY, INC.

7390 Colerain Rd., Cincinnati 39, O. • Phone: JAckson 1-4261

Manufacturers of Miniature Pneumatic Devices, R.F. Coils, Electronic Equipment

▲ For more details circle NED-778 E9 on enclosed inquiry slip ▲

WHAT CAPACITY DO YOU NEED?



ILG POWER ROOF VENTILATORS

Ilg propeller fan power roof ventilators come in the size that's most economical for *your* operation. Eleven different sizes for exhausting as little as 87 c.f.m., as much as 21,100 c.f.m. Low aluminum housing covers direct-connected, patented "Q" type fan wheel, and permanent-split capacitor single-phase motor or 3-phase motor. Send for Bulletin No. 2302.

ILG

ILG ELECTRIC VENTILATING COMPANY
2806 N. Pulaski Road, Chicago 41, Ill.
Offices in 57 Principal Cities

Member of Air Moving and Conditioning Association Inc. (AMCA)

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NEW MECHANICALLY-OPERATED SUCTION INDICATOR

GIVES UNFAILING WARNING

- *When suction or vacuum in industrial equipment is excessive*
- *When filter in engine air cleaner requires servicing*

VIVID RED SIGNAL

ACTUATED DIRECTLY by suction or vacuum
RISES GRADUALLY as suction increases
LOCKS IN FULL VIEW when suction is at preset limit for efficient performance

Requires no electric wiring or power. Operates in any position. Can be mounted directly at suction source, or connected by piping for remote signal. Signal of standard unit can be factory-set to signal maximum suction pressure at desired point up to 32"W or 10" mercury. Other units are available. Simple, tamper-proof, unfailing, inexpensive.

BACHARACH INDUSTRIAL INSTRUMENT CO.
200 N. BRADDOCK AVE. • PITTSBURGH 8, PA.

RUSH details on New Suction Indicator

NAME _____
COMPANY _____
STREET ADDRESS _____
CITY & STATE _____
AF-30

▲ For more details circle NED-780 E9 on enclosed inquiry slip ▲

New Literature & Catalogs

Designing V-Belt Drives

Gates Rubber Co.—32-page Catalog DH-900 contains drive tables which feature a range of sheave diameters and belt lengths and shows how to handle both stock and nonstock drives with Super HC-V-belts. Entitled "The Modern Way to Design V-Belt Drives," it also includes data on new smaller belts and sheaves which make it possible to reduce drive dimensions, bearing loads, drive weight, and cost.

▲ For more details circle NED-781 E9 on enclosed inquiry slip ▲

Incinerators

Winnen Incinerator Co.—Specifications on the line of stationary and portable heavy duty incinerators in standard sizes, plus custom-built Wincinators, prefabricated chimneys, and optional equipment are found in 4-page illustrated Folder 154. Aid in estimating refuse volume is included.

▲ For more details circle NED-782 E9 on enclosed inquiry slip ▲

Diesel Engine Performance

General Motors Corp., Detroit Diesel Engine Div.—"Diesels Out-Perform Gasoline Engines" is title and subject of 8-page illustrated booklet. It tells how the diesel engine works, and compares it with gasoline engines with regard to work producing ability, economy of operation, and life span.

▲ For more details circle NED-783 E9 on enclosed inquiry slip ▲

Cemented Carbide Cutting Tools

Kennametal Inc.—Machine operators, tool layout and tool maintenance men get an assist in the selection, application, and maintenance of Kennametal cemented carbide cutting tools in the form of 64-page Manual No. 7. Revised grade and cutting speed table incorporates harder carbide grades. Recommendations for machining various materials are also revised. Sections on tool selection, trouble shooting, grinding procedures, and brazing methods are covered.

▲ For more details circle NED-784 E9 on enclosed inquiry slip ▲

Hydraulic, Arbor & Utility Presses

Dake Corp.—Revised general Catalog 350A provides specifications on the entire line of electric, air, and hand-operated hydraulic presses, arbor presses, utility presses, and custom engineered presses for special uses. Typical applications are shown.

▲ For more details circle NED-785 E9 on enclosed inquiry slip ▲

Rolling Steel Doors

R. C. Mahon Co.—Serving as a manual and guide for rolling steel doors, 16-page illustrated Bulletin G-59 covers installation requirements, specifications for manual and automatic power operation, and much other design information. Drawings and dimension tables for 16 different door types are included.

▲ For more details circle NED-786 E9 on enclosed inquiry slip ▲

Flexible Hose & Duct

Flexaust Co.—Illustrated 4-page Bulletin 83 contains construction data, selection information, prices, and other data on Flexaust hose and Portovent duct. Fourteen 1-page supplementary bulletin sheets show many diverse applications.

▲ For more details circle NED-787 E9 on enclosed inquiry slip ▲

Drawing & Tracing Files

Hamilton Mfg. Co., Drafting Equipment Div.—From 1 to 30 engineering drawings, tracings, prints, or maps can be stored in each 2½-in. square Hamilton Pack Interlock file. Described in illustrated 8-page Booklet ADR-518, the files form easily assembled banks which can fit in any available space. Lengths range from 22 to 54 in.

▲ For more details circle NED-788 E9 on enclosed inquiry slip ▲

Building Maintenance Products

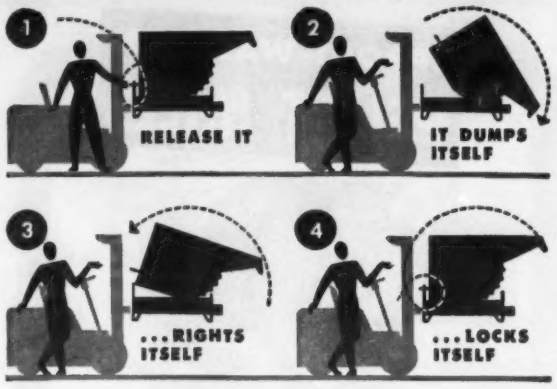
L. Sonneborn Sons, Inc., Building Products Div.—Floor treatment, water and dampproofing, roof coating, and paints and protective coatings are the building maintenance and restoration products covered in 4-page Folder BP6030. Specifications and application data are given for each of the 21 products.

▲ For more details circle NED-789 E9 on enclosed inquiry slip ▲

Contract Manufacturing Facilities

Taft-Peirce Mfg. Co.—Contract Service Division of this company is described in 8-page illustrated Catalog 814 as an integrated engineering, toolmaking, and manufacturing organization. Such services as individual design, toolmaking, machining, heat treating, production, assembly, and inspection are detailed.

▲ For more details circle NED-790 E9 on enclosed inquiry slip ▲



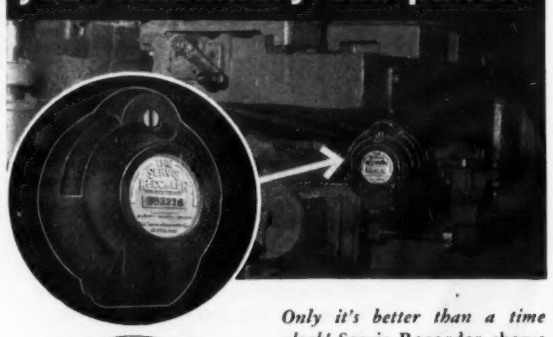
Makes every truck a dump truck

It's a self-dumping hopper for fast, efficient handling of wet or dry, hot or cold bulk materials such as scrap metal, cinders, cullet, hot forgings and castings, punch press parts. Pickup is swift and simple. Forks or platform of any standard lift truck slide easily into hopper underframe. Operator picks up loaded hopper . . . transports it to destination . . . flips the latch . . . and the Roura does the rest . . . automatically. Easily cuts costs 50%. Made of ⅛" steel plate with continuous arc-welded seams. Also available in stainless steel or galvanized. Five sizes, ½ to 2 cubic yards. Standard models available for immediate shipment. Write for literature. ROURA IRON WORKS, INC. 1415 Woodland Ave., Detroit 11, Mich.

ROURA *Self-Dumping* **HOPPER**

▲ For more details circle NED-791 E9 on enclosed inquiry slip ▲

Here's a time clock your machinery can punch!



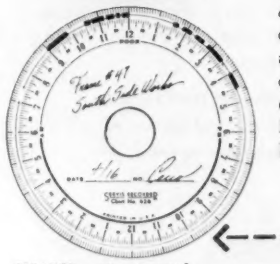


CHART — easy to read . . . easy to file.

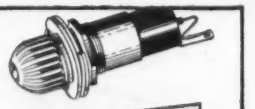
Only it's better than a time clock! Servis Recorder shows every minute of working time and loafing time your machinery puts in. Circular charts are recorded with fine lines for down time and wide bands for productive time.

With **SERVIS RECORDER** you know exactly how much work you get from every machine.

THE SERVICE RECORDER COMPANY
1013A Rockwell Ave., Cleveland 14, Ohio

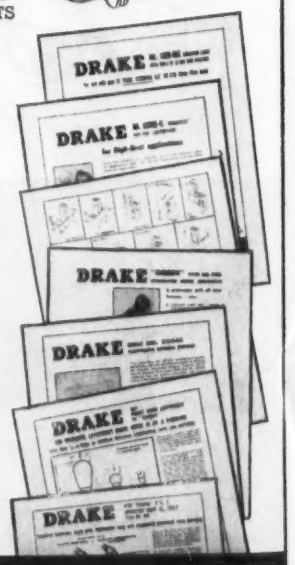
▲ For more details circle NED-792 E9 on enclosed inquiry slip ▲

SEND FOR THESE DETAILED DATA SHEETS
ON MINIATURE LAMPHOLDERS AND INDICATOR LIGHTS



- **No. X3245** — Electronic Triggerswitch
- **No. R115** — "Mineon" Indicator Light Assembly
- **No. 101N-022** — Neon Glow Indicator Light Assembly
- **No. H2005-IL** — "Mini-space" 2-Pin Lampholder
- **Series 1900** — 2-Pin Lampholders with Mounting Brackets
- "Tinylite" Midget Screw Lampholders
- **No. 121** — "Tinylite" Midget Indicator Light Assemblies

and also the Quick-Reference Catalog of the big DRAKE line.



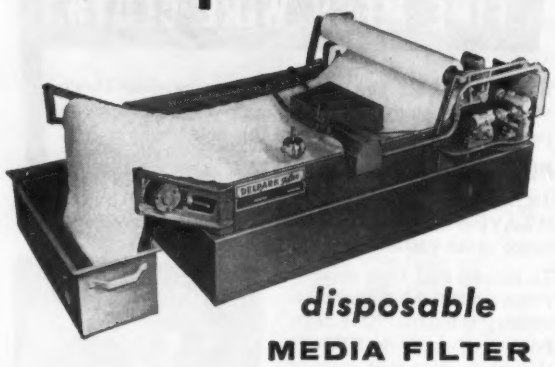
DRAKE

DRAKE MANUFACTURING COMPANY
4624 N. OLCOTT AVENUE • CHICAGO 31, ILLINOIS

MINIATURE LIGHTING SPECIALISTS

▲ For more details circle NED-793 E9 on enclosed inquiry slip ▲

CFC Delpark



disposable
MEDIA FILTER

The Delpark Disposable Media Filter is a continuous self-cleaning gravity filter. It clarifies soluble oil coolants, cutting oils, quenching oils, paint spray booth water, edible oils, fruit juices and other fluids. Liquids flow by gravity through filter material. Solids are deposited in outside container. Standard units have 2 to 700 gpm capacity. *Write for technical literature to Dep't NE.*

COMMERCIAL FILTERS CORPORATION
MELROSE 76, MASSACHUSETTS
PLANTS IN MELROSE, MASSACHUSETTS AND LEBANON, INDIANA

▲ For more details circle NED-794 E9 on enclosed inquiry slip ▲

Never shakes off!

AERO-SEAL JET Hose Clamps have a thousand and one shop and maintenance uses for fastening hose, pipe, tubing and other clamping needs. Made of 302-18-8 stainless steel alloy, they last longer. Bands won't corrode. A few turns of the precision worm gear and they're tightly attached for keeps. Yet they can be removed in a jiffy and re-used over and over. Ask your supplier for genuine AERO-SEALS — Jet or regular.

Aero-Seal JET
QUICK-ATTACH HOSE CLAMPS

BREEZE CORPORATIONS, INC. 700 LIBERTY AVENUE UNION, N.J.

▲ For more details circle NED-795 E9 on enclosed inquiry slip ▲

New Processes & Materials

COATED ABRASIVE DISCS
particles are magnetically oriented

Magnecoating process by which these coated abrasive discs are made assures exposure of only the sharpest edges of the abrasive particles. The particles are magnetically oriented so that they are embedded in the adhesive coating with sharpest points upward. Greater particle density and up to 200 per cent longer disc life result. Discs are available in standard grits for grinding and finishing of heavy metals, sheet metal, soft and semisoft metals, and in silicon carbide for use with ceramics, glass, wood, and other special materials. All are made in 7 and 9⅛-in. diameters, with either ½ or ⅞-in. holes by **Abrasives Co. of America**, 492 Main St., Fort Lee, N. J.

▲ For more details circle NED-797 E9 on enclosed inquiry slip ▲

NONACID FLUX
leaves no rosin residue

Nonacid, hydrazine flux for use in soldering electrical equipment leaves no rosin residue, is noncorrosive, nonhygroscopic, and allows prefluxing. It vaporizes completely in the heat of soldering. No washing is necessary where fluxed parts are heated to soldering temperature. Metal surfaces which can be soft-soldered with the flux are copper, brass, hot tin dipped, hot solder dipped, tin plate, solder plate, copper plate, cadmium plate, zinc, silver plate, beryllium copper, and nickel plated brass. Made by **Fairmount Chemical Co.**, 136 Liberty St., New York 6, N. Y.

▲ For more details circle NED-798 E9 on enclosed inquiry slip ▲

PLASTIC FLOOR COATING
features antislip characteristics

Improved Skid-Not plastic floor finish dries to a gloss without polishing, will not discolor or water-spot, and is absolutely nonslip. Finish can be used to protect and beautify varnished, painted, or enameled floors, as well as linoleum, rubber, cork, asphalt tile, terrazzo, magnesite, or sealed wood floors. Applied with an ordinary mop, it resists bacteria, is easy to clean, and does not scuff or show foot marks. Heavy traffic areas can be touched-up without re-doing the entire floor. Formulated by **Monroe Co.**, Dept. SN, 10703 Quebec Ave., Cleveland 6, Ohio.

▲ For more details circle NED-799 E9 on enclosed inquiry slip ▲

BEAT the HEAT with

NEW 4-page booklet gives full information on how to use Dow Corning 44 Grease for long-term lubrication at temperatures ranging from —40 to 400 F. Tells where this high temperature silicone grease can help cut maintenance on ball bearings and plastic bearing surfaces. Provides detailed information on properties and gives case histories which prove 44 Grease won't oxidize, thin out or gum up.

To receive your free copy, address dept. 5417

first in silicones
Dow Corning CORPORATION
MIDLAND, MICHIGAN

▲ For more details circle NED-800 E9 on enclosed inquiry slip ▲

Another RCA Automation Product for Better Materials Handling

Low cost automatic
RCA ROTARY HOPPER

Compare the cost and features of these new RCA Automatic Rotary Hoppers, and you'll see why they are gaining such rapid acceptance! They provide every needed operating feature, yet are offered at remarkably low prices . . . beginning at $265, f.o.b., Detroit.

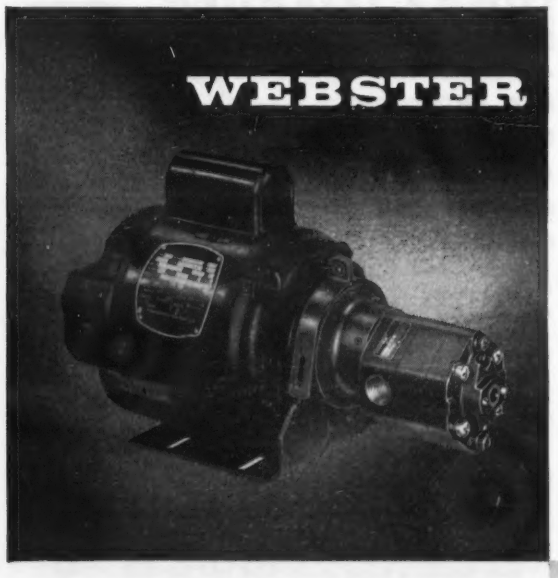
Features:
- High-speed—up to 20,000 parts per hour.
- Handles cylindrical, rectangular, headed disc shaped and other parts.
- Parts orientation performed by feed track, not the bowl.
- Feed tracks easily changed by loosening one screw.
- 18", 24", 30" bowls available.
- Rugged construction—cast-iron frame; driving mechanism supported by heavy duty self-aligning bearings.
- Standard gear-head motor.
- Safety-slip drive protects parts and equipment.
- Price includes cleats on selector ring and mounting block for tracks.
- Demand-control mechanism and wide variety of discharge tracks furnished at modest extra cost.

Write today for complete information on low-cost RCA Rotary Hoppers. To permit analysis of your needs, send two samples of each part to be handled, and indicate required production rates. Details of other RCA Automation Equipment available on request.

RCA Tmk(s)®
RADIO CORPORATION of AMERICA
INDUSTRIAL AND AUTOMATION DIVISION
12605 Arnold Ave., Detroit 39, Mich.

▲ For more details circle NED-801 E9 on enclosed inquiry slip ▲

WEBSTER SUPPLY PUMPS



Capacities to 575 GPH

This is the way to handle all furnace oils, especially heavy no. 5 and 6 grades — with an extra measure of dependability required for commercial and industrial applications. Webster supply pumps are motor equipped, provide a range of capacities from 15 GPH to 575 GPH. Heavy oil models have extra large ports to transfer initially cold, heavy oils without restriction.

Webster pumps are compact, easy to install. Require less plumbing. Engineering bulletins give complete specifications and mounting dimensions.

call the man from Webster

MODEL 23118 fills the need for a lightweight, portable pump and motor combination. Transfers fuel oil, kerosene or other lubricating liquids. Mounted on wood base, with carrying handle and 25-foot cord.

HEATING DIVISION
WEBSTER ELECTRIC
RACINE · WIS

▲ For more details circle NED-796 E9 on enclosed inquiry slip ▲

GENERAL PLATE
Copper Cored Glass Sealing Wire Features a Sound Metallurgical Bond
... And Gives You These Advantages ...

- Leakproof Seal between Alloy and Core
- High Electrical Conductivity
- Increased Thermal Conductivity
- Coefficient of Expansion Matches Glass
- Facilitates Miniaturization
- Cuts Costs

General Plate Copper Cored Alloy Wire (33% copper clad core, 67% glass sealing alloy) gives you three times greater electrical conductivity than solid #52 alloy wire of equal diameter.

This means you can substantially increase the current carrying capacity without going to larger diameters — or, if you have a miniaturization problem, you can reduce sealing wire diameters correspondingly. The sound metallurgical bond between the copper core and outer shell eliminates any air or gas leaks in the wire.

They are available in #52 alloy, Type 446 stainless, low carbon steel, Kovar* and other glass sealing alloys. Write for Bulletin IND-15.

*T. M. Registered Carborundum Co.

METALS & CONTROLS CORPORATION
General Plate Division
1805 Forest Street
Attleboro, Mass.

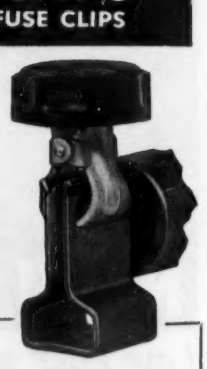
▲ For more details circle NED-802 E9 on enclosed inquiry slip ▲

ELIMINATE THIS COSTLY TROUBLE ZONE with Inexpensive TRICO KLIPLOK CLAMPS FOR FUSE CLIPS

- SAVE POWER
- SAVE FUSES
- SAVE CLIPS

Kliploks lock fuse and clips together . . . Prevent dangerous heating and arcing at contacts . . . Stop unnecessary fuse blows. Especially recommended for "Dual-Element" fuses.

WRITE FOR BUL. NO. 6



TRICO FUSE REDUCERS

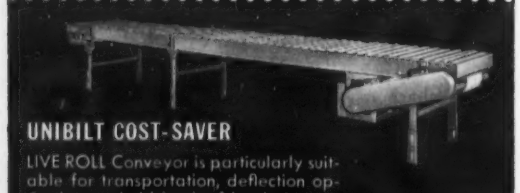
Heavy solid brass and copper parts. 250 and 600 volts. Makes it possible to use standard or dual-element cartridge fuses of sizes smaller than the fuse clips are intended for.

WRITE FOR BULLETIN NO. 8

TRICO FUSE MFG. CO. MILWAUKEE 12, WIS.

▲ For more details circle NED-803 E9 on enclosed inquiry slip ▲

UNIBILT COST-SAVER
UNITABLE Belt Conveyor is ideal for inspection, packaging, assembly.



UNIBILT COST-SAVER
LIVE ROLL Conveyor is particularly suitable for transportation, deflection operations or hold back of loads.

UNIBILT® CONVEYOR SYSTEMS
You can assemble yourself

CONVEYOR SPECIALTY CO., INC.
35 Years' Experience Means Dependable Quality and Engineering
Send for NEW Full Line Brochure
37 NEWPORT AVENUE, NORTH QUINCY 71, MASSACHUSETTS

▲ For more details circle NED-804 E9 on enclosed inquiry slip ▲

New Literature & Catalogs

Nonferrous Centrifugal Casting

Shenango Furnace Co., Centrifugally Cast Products Div.—Detailed alloy chart which shows comparative specifications, chemical analyses, and minimum physical properties of Shenango nonferrous alloys is found in 8-page Bulletin 157. Broad range of products and assemblies produced by centrifugal method are shown.

▲ For more details circle NED-805 E9 on enclosed inquiry slip ▲

Tank Level & Content Meter

Uehling Instrument Co.—Tank-O-Meter for measuring liquid levels and tank contents from any distance is subject of illustrated 8-page Bulletin 945. Fifty-two standard models for measuring liquid depths from 12 to 900 in. are offered. Types for actuating high or low alarms, pumps, or valves are described.

▲ For more details circle NED-806 E9 on enclosed inquiry slip ▲

High Tensile Fastening

Elastic Stop Nut Corp. of America—38-page Design Manual 5825 offers high tensile fastener design considerations; reproductions of NAS and MS bolt specifications; and three tables cross-referencing 160,000, 180,000, and 220,000-psi bolts and other compatible Elastic Stop Nuts. Set of high tensile, self-locking fastener standard drawings is included.

▲ For more details circle NED-807 E9 on enclosed inquiry slip ▲

Heat Treating Furnaces

Hevi-Duty Electric Co.—12-page Bulletin 653A briefly describes a complete line of electric and fuel fired heat treating furnaces and protective atmosphere generators. Also detailed are melting, heat processing, forging, and special furnaces and heating equipment.

▲ For more details circle NED-808 E9 on enclosed inquiry slip ▲

Cold Rolled Spring Steel

Uddeholm Co. of America—43-page stock list covers all standard sizes of cold rolled spring steels. These include blue tempered and polished clock spring, bandsaw, tempered flapper valve, tempered shock absorber, thickness gage, doctor blade, scaleless-blue tempered spring, and annealed spring steels.

▲ For more details circle NED-809 E9 on enclosed inquiry slip ▲

Rubber Parts Production Facilities

Goshen Rubber Co.—Facilities of this company for producing custom-made rubber parts, seals, and components are described in 8-page brochure. Laboratory facilties for developing natural, synthetic, and silicone compounds are also covered. Representative products and services are shown.

▲ For more details circle NED-810 E9 on enclosed inquiry slip ▲

Spectographic & Related Equipment

National Spectrographic Laboratories, Inc.—Loose-leaf catalog consisting of six 2-page and six 4-page product bulletins covers line of spectrographic and analytical chemical equipment and laboratory services. Construction, features, and specifications are given for source units, microphotometers, sample holders, spectrographs, auxiliary equipment, and custom units.

▲ For more details circle NED-811 E9 on enclosed inquiry slip ▲

Pressure & Vacuum Gages

Weksler Instrument Corp.—32-page Catalog 525B contains data on dial indicating and recording pressure and vacuum gages. Dial sizes of 3½, 4, 6, and 8½ in. are offered in ranges from 10 in. of water to 10,000 psi. Cases are of various materials. Series of duplex, differential, retarded, and suppressed scale gages is described. Recording pressure gages have 8, 10, and 12-in. chart sizes.

▲ For more details circle NED-812 E9 on enclosed inquiry slip ▲

Material Handling Equipment

H. L. Bushman Co.—Loose-leaf type catalog describes Bushman jib cranes, gantry cranes, grabs, vacuum lifters, buckets, and coil up-enders. Specifications and illustrations of all products are included.

▲ For more details circle NED-813 E9 on enclosed inquiry slip ▲

Bearing Units

Browning Mfg. Co. — Price Sheet BU-101-B on Browning pillow block, flange block, and ball bearing units also includes specifications and dimensions. Units are offered in high and low shaft heights, in standard shaft sizes from ½ to 2 7/16 in. Take-up frame units and adapter bearings are also covered.

▲ For more details circle NED-814 E9 on enclosed inquiry slip ▲

DO YOU USE FINE MESH WIRE CLOTH?

If so, chances are you already are buying your Dutch Weave filter cloth from Michigan Wire Cloth Company—the recognized leader in this field.

NOW here is something NEW

To meet increased demands for fine mesh SQUARE WEAVE wire cloth, MICHIGAN has broadened its scope in the 120-400 mesh range.

To reduce lead time in your procurement, Michigan's inventory standards have been boosted to provide STOCK shipments. You will want to take advantage of this prompt service on your next requirement. *Write for your copy of*

The Fine Mesh Folder

Includes stock specifications, metals, widths, *plus previously unpublished technical data.*

MICHIGAN WIRE CLOTH COMPANY
2100 Howard TAshmoo 6-6500
Detroit 16, Michigan

▲ For more details circle NED-815 E9 on enclosed inquiry slip ▲

NEW low priced STAINLESS STEEL AIR CYLINDERS

BIMBA

- 1-1/16" Bore, Double Acting • Up to 18" Stroke Length • 50% Heavier Wall STAINLESS Steel Tubing Type 304
- Exclusive Rolled Edge Construction Now On Rear Head As Well As Front
- "U" Cup Pistons & Seals • Ground & Polished STAINLESS Steel Piston Rod
- Front Nose & Foot Mounting
- $7.95 For Model 091-DX (1" Stroke) • Add $0.50 for each additional inch of stroke.
- Fast Brackets Extra.

Write For Latest Catalog and Name Of Nearest Distributor.

BIMBA MANUFACTURING CO.
103 MAIN STREET MONEE, ILLINOIS

▲ For more details circle NED-816 E9 on enclosed inquiry slip ▲

VIBRA-WASHER
... THE COMPLETELY NEW AUTOMATIC PARTS WASHER AND METAL CONDITIONING MACHINE

- Labor saving
- Automatic unloading
- For single or multi-stage operations
- No nesting of parts during cleaning or conditioning cycle
- Adjustable capacities to 10,000 lbs. per hour

The versatile new Simplicity VIBRA-WASHER, revolutionary machine for washing and conditioning of small metal parts, stampings and castings, employs a vibrating work carrier that automatically conveys parts through cleaning or conditioning bath. Solution is forced around parts, even into blind drillings and slots. In single stage, VIBRA-WASHER removes chips, oil and grease quickly . . . economically. In multi-stage, several units in line will provide cleaning, rinsing and phosphating, eliminating "between-stage" handling. Write today for Bulletin 107, to: Industrial Washer Division.

Simplicity TRADE MARK REGISTERED
212 ENGINEERING COMPANY • DURAND 15, MICH.

▲ For more details circle NED-817 E9 on enclosed inquiry slip ▲

whatever the job...

PERMACEL

INDUSTRIAL ADHESIVES

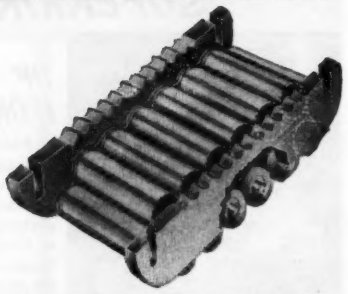
PERMACEL New Brunswick, N.J.

TAPES • ELECTRICAL INSULATING MATERIALS • ADHESIVES

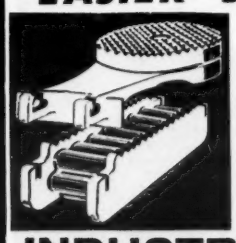
▲ For more details circle NED-818 E9 on enclosed inquiry slip ▲

EXPRESS ROLLERS

MOVE 30 Tons for $200



EASIER - SAFER - FASTER



Don't Slide It, Roll It! Cut down machinery moving time to minutes with a set of Express Rollers. Rugged; compact; for tight places. Complete Folder shows recommended set for loads from 2-150 tons; prices; turning attachments; accessories. SEND FOR FREE LITERATURE TODAY!

INDUSTRIAL EAST CO.

P. O. 561, Clifton 3, New Jersey

Our Catalog may be found in Sweet's Plant Engineering File, '59

▲ For more details circle NED-819 E9 on enclosed inquiry slip ▲

TRIAL SAMPLE

Of World-Famous WHITMORE'S Lubricants NOW IN AEROSOL SPRAY-ON CANS!

WIRE ROPE SPRAY LUBRICANT

Exclusive formulas for lubricating and protecting wire rope, chain, springs. Penetrates to the core of wire rope minimizing internal friction and increasing usable life up to 300% —special protective qualities absolutely eliminate corrosion—non-gumming qualities reduce "carry-back"—packaged in handy 16 oz. aerosol spray-on containers or in bulk containers—send for a free trial sample.

65 YEARS OF LEADERSHIP

LUBRICATING THE FOLLOWING:

- Open Gears, Dipper Sticks, Cams
- Hydraulic Units, Torque Converters
- Speed Reducers
- Enclosed Gear Cases
- Roller, Ball, and Sleeve Bearings
- Wire Rope and Cable

Est. 1893

THE WHITMORE MANUFACTURING CO.

LUBRICATING ENGINEERS

CLEVELAND 4, OHIO, • VULCAN 3-7272

▲ For more details circle NED-820 E9 on enclosed inquiry slip ▲

New Processes & Materials

STEEL HARDENING COMPOUND
small package for testing purposes

Case hardening qualities which more than triple the life of tools and parts are imparted by Hard-N-Tuff steel hardening compound. The nontoxic and nonflammable compound is applied in a simple, fast heat treating operation. By carburizing, nitriding, and chromizing simultaneously, it reportedly gives mild steel the hardness of high carbon alloys, yet leaves the inside core tough and nonbrittle. Sample 3-oz can for testing purposes is available for $2; a 1-lb can for $8.95. Made by **Hard-N-Tuff Corp.**, Box 275, Huntington, L. I., N. Y.

▲ For more details circle NED-821 E9 on enclosed inquiry slip ▲

SELF-ADHESIVE FOAM
for cushioning and other uses

Self-adhesive Fasson Foam combines the properties of polyurethane foam with those of a permanent type pressure-sensitive adhesive. Material is suited for various cushioning, insulating, soundproofing, and weather-stripping applications. Application is by removing the protective backing paper and pressing into place. The adhesive sticks upon touch and its bond increases with time. Foam is easily die cut, guillotined, or slit on conventional equipment. Thicknesses from 1/8 to 1 in. are offered in rolls or sheets up to 52 in. wide. Samples are available. Made by **Avery Adhesive Products, Inc.**, Fasson Products Div., 250 Chester St., Painesville, Ohio.

▲ For more details circle NED-822 E9 on enclosed inquiry slip ▲

PLASTIC FLOOR PATCH
resists oil, acids, and alkalies

Suited for patching and resurfacing concrete and other floors, Dascrete is a two-part plastic that hardens in 2 to 10 hours. It is unaffected by alkalies, detergents, petroleum products, most acids, and solvents. Chemically inert and nontoxic, this material is applied to clean, dry surface by trowelling. It is also usable for restoring deteriorated masonry surfaces; repairing or waterproofing walls, floors, or structures; corrosionproofing equipment; cladding tanks and vats; and providing skidproof surfaces. Made by **Dasco Chemical Co.**, 1602 Thames St., Baltimore 31, Md.

▲ For more details circle NED-823 E9 on enclosed inquiry slip ▲

STOP THIEVES WITH "BLACK LIGHT!"

Ideal burglar protection for spacious areas at a reasonable cost, the transistorized Kidde Photo-Electric Burglar Alarm System uses an invisible beam of "black light," is completely tamper-proof, requires no special wiring. It can be installed simply and easily by one man. For more information about this new, U.L.-approved protection, send the coupon or write to Kidde today!

Walter Kidde & Company, Inc., 524A Main St., Belleville 9, N.J.

Send me your Photo-Electric Burglar Alarm Data Sheet U-2.

NAME _____

ADDRESS _____

CITY _____ STATE _____

▲ For more details circle NED-824 E9 on enclosed inquiry slip ▲

ANOTHER PANNIER MASTER MARKER!

PANNIER'S ALL-NEW SUPER INK PRINT-ALL

Internally fed unit.

Use inks from semi-paste to liquid, including light colored, heavy pigmented inks.

Continuous or repeat printing.

No stopping to add ink.

Print on 1" centers with multiple staggered units.

Super Ink Print-All clearly marks all conveyed materials traveling horizontally or vertically. It prints top or bottom surfaces as material moves under or over the printer.

Write for complete data.

BIRTHMARKED MATERIALS

MARKING DEVICES

THE PANNIER CORPORATION

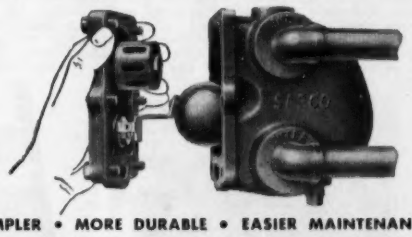
301 Pannier Building • FAirfax 1-5185 • Pittsburgh 12, Pa.

Offices: Los Angeles • Chicago • Cleveland • Philadelphia • Birmingham

▲ For more details circle NED-825 E9 on enclosed inquiry slip ▲

NEW-IMPROVED STEAM TRAP

Float-Thermostatic Type FT



SIMPLER • MORE DURABLE • EASIER MAINTENANCE

1. **Stainless steel valve mechanism** — valve arm, bracket, hardened seat, ball head.
2. **Ball bearing valve head** —stainless steel. Accuracy and hardness insure tight shut-off, long life.
3. **Heavy-wall copper float** —reinforced at lever connection, copper-plated.
4. **Thermostatic bellows** — to insure long life, it's made of special copper alloy, drawn and corrugated by exclusive process in Sarco's plant.
5. **Semi-steel body and cover** — 125 psi steam pressure rated.
6. **Side inlet and outlet** — pipe can be connected vertically, horizontally, or at right angles.
7. **Easy access**—to all working parts. Entire trap mechanism attached to easily removable cover; accessible without disturbing connections.

Sizes — 3/4" and 1"
Working Pressures — up to 125 psi

Write for Bulletin 455-B to Sarco Company, Inc., 635 Madison Avenue, New York 22, N. Y.

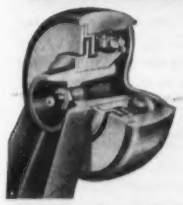
2248-F

SARCO

▲ For more details circle NED-826 E9 on enclosed inquiry slip ▲

a new standard to meet the demands of industry . . .

R-W 458 CHAIN CONVEYORS



R-W 458 trolleys offer many exclusive and important features . . . features that will pay off through improved service and trouble-free operation with a minimum of upkeep.

For the conveying of light loads, heavy loads or "tow cart" installation, R-W 458 Chain Conveyors provide the ideal method to speed-up production, lower operating costs and achieve a profit-improvement. R-W 458 Chain Conveyors are easy and economical to install, operate and maintain . . . may be added to existing systems. All components, while designed to meet industry standards, are manufactured to conform with R-W's strict quality control procedures that assure you of receiving dependable, long-life service and trouble-free operation. Write today for additional information . . . request your free copy of catalog No. A-570.

RICHARDS-WILCOX MFG. CO.

435 W. THIRD STREET • AURORA, ILLINOIS • Branches in Principal Cities

▲ For more details circle NED-827 E9 on enclosed inquiry slip ▲

EASY...

...to install
...to operate
...to service

Rockwood Top Entry Ball Valve

It's a cinch to install and operate a Rockwood Top Entry Ball Valve because square stem design permits handle to be placed in any of 8 positions! Simple to change direction of shut-off, too . . . merely remove handle and body cap and reverse cage assembly. Seat can be changed in minutes . . . or valve cleaned . . . because *all* moving parts lift out as unit for quick servicing on-the-line. Seats of Buna N, Teflon, nylon, or *Viton-A*. For oil, gas, or hazardous liquids.

For details write

ROCKWOOD SPRINKLER COMPANY
1170 Harlow Street, Worcester 5, Massachusetts

▲ For more details circle NED-828 E9 on enclosed inquiry slip ▲

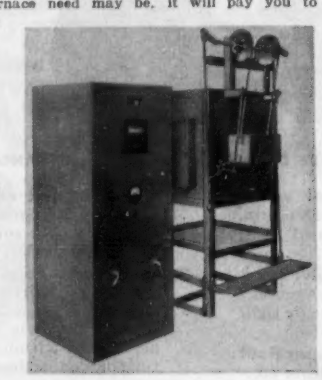
completely packaged

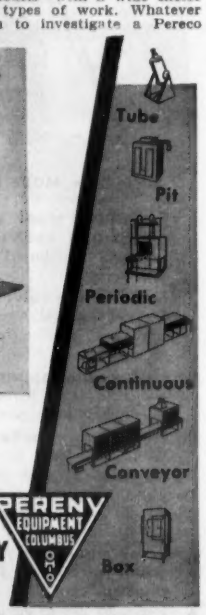
PERECO *Electric* FURNACE

for shop or laboratory uses

Treating high-speed steel—in Philippines or Pittsburgh—is just one of the jobs—reported by users from all points of the globe—which are being handled more efficiently with the accurately controlled, clean electric heat of Pereco Furnaces. Also more economically! And the FG Series Pereco Unit (illustrated below), with operating temperatures to 2500° F., is only typical of many standard models—with a wide choice of controls—available for handling different types of work. Whatever your furnace need may be, it will pay you to investigate a Pereco Furnace.

FG Series Available in a number of sizes





NOW AVAILABLE

Kanthal-Super Element equipped Pereco Furnaces and Kilns for continuous operation at temperatures up to 3000° F. in oxidizing atmospheres. Write for details.

PERENY EQUIPMENT COMPANY
Dept. G, 893 Chambers Rd., Columbus 12, Ohio
Export Office: Ad Auriema, Inc., 85 Broad Street, New York 4, N. Y.

▲ For more details circle NED-829 E9 on enclosed inquiry slip ▲

with precision, direct reading Hunter Mechanical Force Gages*—Series L type in 13 models for measuring load ranges from 0-500 grams to 0-30 pounds and Series D type in 6 models for measuring load ranges from 0-50 pounds to 0-500 pounds. Both types are accurate to better than 1% of full scale, can be provided with a "hold-at-maximum" indicator for registering maximum load, come complete with six attachments and wood carrying case. Thousands are now in use in laboratories, inspection departments, on production lines, and in the field. Send for Bulletin 750c containing full details including prices.

*The "Force Gage" of many test standards.

HUNTER SPRING COMPANY
A Division of American Machine and Metals, Inc.
14 Spring Avenue, Lansdale, Pennsylvania

▲ For more details circle NED-830 E9 on enclosed inquiry slip ▲

New Literature & Catalogs

Air & Hydraulic Cylinders

Petch Mfg. Co.—Condensed data and application information on a wide range of sizes and types of air and hydraulic cylinders are contained in 16-page Catalog PSC-59. Also explained is a new concept in hydraulic valve panel fabrication using building block components.

▲ For more details circle NED-831 E9 on enclosed inquiry slip ▲

50 Million Fasteners

Albany Products Co.—In self-kidding style, 8-page "Product List" classifies more than 50 million stocked fasteners covering over 70 different AN and MS specifications. Bolts, studs, screws, nuts, washers, rivets, and pins are major classifications. Grades of stainless steel available are listed for each fastener and number up to 18 on many items.

▲ For more details circle NED-832 E9 on enclosed inquiry slip ▲

Gravity & Power Conveyors

Standard Conveyor Co.—Conveyor units catalogued in 24-page Bulletin 65 are standard roller, portable belt, horizontal, incline and lowering, and other types designed to handle packaged commodities. Bulletin furnishes descriptive, size, and construction data and includes pages on roller assemblies and conveyor components.

▲ For more details circle NED-833 E9 on enclosed inquiry slip ▲

Marking & Numbering Machines

Acromark Co.—Pocket-size 12-page catalog briefly reviews marking and numbering machines and supplemental products which will mark, number, decorate, stamp, emboss, print, or etch metal, plastic, wood, fiber, rubber, paper, fabric, glass, and ceramics.

▲ For more details circle NED-834 E9 on enclosed inquiry slip ▲

Integral Finned Tube

Calumet & Hecla, Inc.,Wolverine Tube Div.—Redevelopment of the fin contour of Trufin Admiralty Type S/T finned tube resulted in a 13 per cent increase in the outside surface area. 24-page reference catalog 1258 lists all sizes, alloys, heat transfer data, and application information for many types of finned tube. Trufin tube is processed from one piece of metal.

▲ For more details circle NED-835 E9 on enclosed inquiry slip ▲

Automatic Drum Warmers

Harold L. Palmer Co.—Available literature consists of 2-page bulletin describing 14, 16, 30, and 55-gal drum warmers and 4-page specifications and price sheet. Warmers are essentially portable electric ovens which can be adapted to warm drums containing tar, asphalt, plastic, paint, syrups, and other viscous materials.

▲ For more details circle NED-836 E9 on enclosed inquiry slip ▲

Flexible Metal Hose & Components

Literature on industrial applications of flexible metal hose and components is offered on a specialized basis with individual folders covering particular industries or specific products. Requests for literature should define the use and/or conditions under which hose, bellows, ducts, or assemblies will serve. Write U. S. Flexible Tubing Co., Dept. NED, Bartlett, Ill.

▲ For more details circle NED-837 E9 on enclosed inquiry slip ▲

Data on Masonite

Masonite Corp.—Data book for designers on Masonite Benelex products contains information on production, uses, physical and dielectric properties, working characteristics, and available board sizes and thicknesses. Benelex resin-laminated hardboard is available in thicknesses from 1/8 through 2 in. and sizes up to 48 x 144 in.

▲ For more details circle NED-838 E9 on enclosed inquiry slip ▲

Powdered Metal Parts

Reese Metal Products Corp.—Revised 16-page booklet tells "How to Cut Precision Parts Costs with the Remet Powdered Metal Process." It shows a number of powdered metal parts applications and designs. A physical characteristics chart is featured.

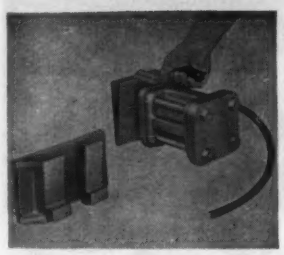
▲ For more details circle NED-839 E9 on enclosed inquiry slip ▲

Guns To Apply Adhesives

John P. Fox Co.—Over 175 types of glue guns and accessories for applying just the right amount of adhesive exactly where it is needed are shown in Bulletin G-0359-25. Guns for hand and mechanical use operate at high production speeds and save adhesive.

▲ For more details circle NED-840 E9 on enclosed inquiry slip ▲

CLEVELAND'S NEW PORTABLE VIBRATOR



Lightweight
Well-Balanced

Having trouble with materials sticking in your portable bins or trucks? If so the Cleveland Type LSRRH Portable Vibrator is just what you've been looking for. This lightweight, unusually well-balanced portable is ideal for all equipment such as concrete forms, septic tanks or large pipe forms, that do not require a permanent vibrator installation.

The Cleveland Type LSRRH Portable Vibrator will develop 7000 to 8000 vibrations per minute at maximum speed, maintaining a free flow under all conditions. Its sturdy cast steel bracket holds the LSRRH securely in place, making it ideal for heavy duty use.

For more detailed information write for our illustrated catalog.

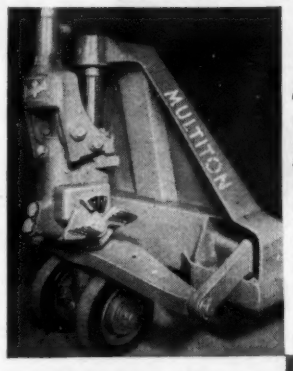
Remember, this new portable vibrator is just one of The Cleveland Vibrator Company's complete line of air and electric vibrators. There's a type and size vibrator for your every requirement.

THE CLEVELAND VIBRATOR CO.
Dept. 5K-2744 Clinton Avenue • Cleveland 13, Ohio.

▲ For more details circle NED-841 E9 on enclosed inquiry slip ▲

MULTITON PALLET TRUCK gives you

SUPERIOR QUALITY

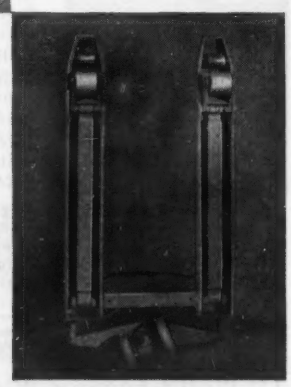


UP FRONT

- Patented leakproof hydraulics with overload and overflow valves
- Hard-chrome plated pistons in honed cylinders
- Precision-machined oil lines—no pipes, no tubings, no packings
- Magnetic oil filter

DOWN UNDER

- Box-section type push rods
- Taper roller bearings on load rollers
- Torsion-proof hardened joints
- Effortless operation through pallet entry & exit rollers



OVER-ALL

- Hand-operated 4½" lift in only 3 strokes
- Constant lowering speed regardless of load
- All valves easily accessible from outside
- Low tapered forks for maximum clearance

Full 6 months warranty

MULTITON FULLY HYDRAULIC
PALLET TRUCK
Still only $358

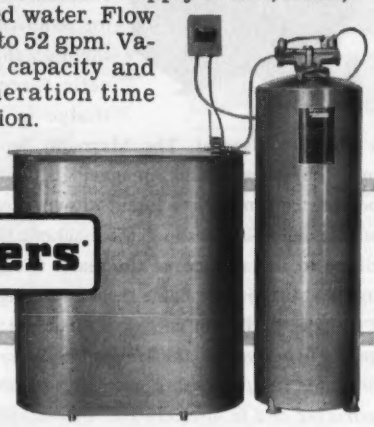
Capacities: 2200, 3500, 4400 lbs. Skid adaptors and/or brake optional. Available in all standard fork lengths with full variety of wheels to fit every requirement. Write for full information.

MULTITON PRODUCTS DIVISION
Stokvis Edera & Co., Inc.
Dept. Ned 5 18 Secatong Ave., Port Washington, N. Y.

▲ For more details circle NED-842 E9 on enclosed inquiry slip ▲

Fully Automatic Myers water softeners

to fulfill your in-plant requirements for a continuous supply of soft, clean, filtered water. Flow rates to 52 gpm. Variable capacity and regeneration time selection.



Myers

Available Immediately For Prompt Shipment.
For detailed specifications, write:

The F. E. Myers & Bro. Co.
8902 ORANGE STREET, ASHLAND, OHIO

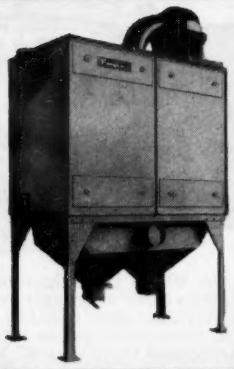
For more details circle NED-843 E9 on enclosed inquiry slip

For Efficient Dust Collection in Small Applications...

Pangborn Dust Control cuts housekeeping costs, minimizes machine wear, guards employee health and reclaims valuable material for salvage.

Pangborn Unit Collectors—ranging from 200 to 1,000 sq. ft. cloth area—require little floor space. Shipped from stock fully assembled.

PANGBORN CORP., 2400 Pangborn Blvd., Hagerstown, Md. *Manufacturers of Dust Control and Blast Cleaning Equipment and Rotoblast® Steel Shot and Grit.*



Pangborn CONTROLS DUST

For more details circle NED-844 E9 on enclosed inquiry slip

New Processes & Materials

PLASTIC METAL FILLER repairs sheet metal dents, ruptures

Nontoxic and safe to use, Shurbond plastic metal filler can be used to fill in dents or repair ruptures in tanks, vehicle bodies, and other sheet metal items. It has all the advantages of regular solder and hardens in 4 min when used in conjunction with Anchor Quickset for a permanent bond. Filler is available in ½-pt, quart, and gallon cans from Anchor Metal Co., 966 Meeker Ave., Brooklyn, N. Y.

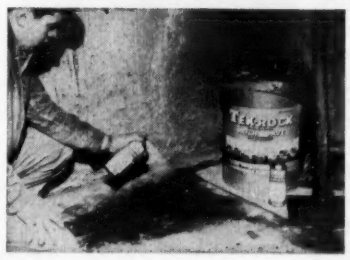
For more details circle NED-846 E9 on enclosed inquiry slip

HARD-FACING ELECTRODE for parts under severe abrasion

Resistance to severe abrasion, medium impact, and high compressive loads is afforded by Stoody 2134 hard-facing tubular electrode. It has a dipped graphitic coating and contains about 43 per cent alloy materials. Deposits bond readily to carbon, low alloy, and manganese steels and are magnetic, nonmachinable, and nonforgeable. Material is suited for use on earth-working buckets and teeth, crushers, and other parts subject to severe destructive wear. Hardness ranges from 56 to 60 Rockwell C with a two-pass deposit on medium carbon steel. Electrode is available in 5/32 and 3/16-in. diameters, 14-in. length; ¼ and ⅜-in. diameters, 18-in. length; and in 7/64-in. wire in 50-lb coils. Made by Stoody Co., 1 Valley St., Whittier, Calif.

For more details circle NED-847 E9 on enclosed inquiry slip

CONCRETE FLOOR PATCH can be used soon after application



Damaged floors, driveways, ramps and walks can be patched and paved with Tex-Rock, a natural ground bituminous rock containing 6.5 per cent bitumen. It repairs, levels, seals, and smooths any asphalt, concrete, or brick surface. Ready to use material is easily applied and can withstand traffic immediately after application. Light coat of adhesive primer is sprayed on area to be repaired, the patching material is applied, then it is tamped or rolled. It is supplied in 100-lb drums with a spray can of primer. Made by Tamms Industries Co., 228 N. La Salle St., Chicago 1, Ill.

For more details circle NED-848 E9 on enclosed inquiry slip

PROTECTION PLUS!

END MAINTENANCE PROBLEMS *FAST* WITH CHARCOTE*

NEOPRENE RUBBER-COATING

Protects Against:
CORROSIVE FUMES — WEATHERING — ABRASION
SUNLIGHT AND HEAT — MOISTURE — SALT SPRAY

CHARCOTE is not a rubber base paint. You do not "paint" surfaces . . . you actually rubber-coat them with protection!

CHARCOTE can be brushed on, rolled on, sprayed or used as a dip. Available in standard industrial colors including aluminum, red, black, green and grey; and in quart, gallon, five-gallon and drum containers.

Tougher Than The Metal Itself

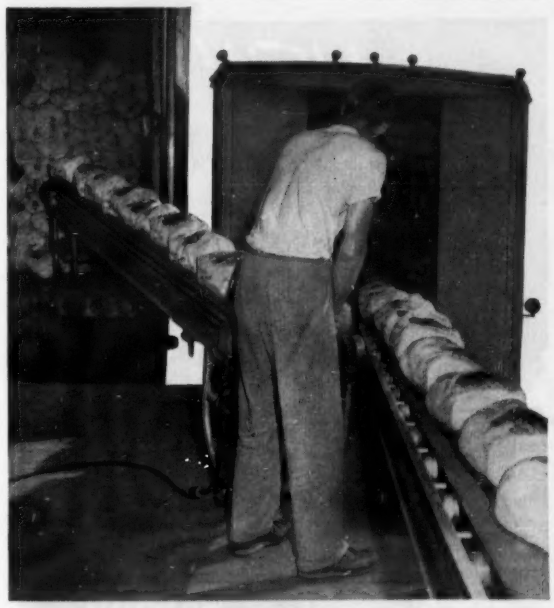
CHARCOTE air-dries and air-cures to a tough, pliable, rustproofing and waterproofing film of neoprene rubber, and has its built-in primer.

JOBBER INQUIRIES INVITED

Write For Descriptive Charcote Folder

CHARLESTON RUBBER CO.
18 STARK IND. PARK CHARLESTON, S.C.

For more details circle NED-849 E9 on enclosed inquiry slip



One Ve-Be-Veyor line loads two trucks at the same time!

At W. C. Romain, Menands, N. Y., these practical Oliver-Farquhar Ve-Be-Veyor Power Belt Conveyors load trucks with remarkable efficiency and flexibility. Swivel caster mountings make it easy for one man to move the V-B's where they're needed. And loading is so easy, so fast that two V-B's are often used to take the load directly to *two* trucks from one main line.

Oliver-Farquhar aluminum Ve-Be-Veyor Power Belt Conveyors are the most versatile units on the market. Available in 12, 16 and 20-foot lengths, powered by either a 1/3rd hp electric motor or gasoline engine. Whether you are moving bags, boxes, cartons or packages into, around or out of your plant—remember, use Ve-Be-Veyors. They cut time, cut labor costs—every time! Write, wire or phone for details today.

OLIVER POWER BELT AND GRAVITY CONVEYORS
Farquhar CONVEYORS

Mail This Coupon

The Oliver Corporation, A. B. FARQUHAR DIVISION
Conveyor Dept. Y-04, York, Penna.
Factory Branch: 618 W. Elm St., Chicago 10, Ill.
Yes, please send me facts on your conveyors.

Name_____
Company Name_____
Street Address_____
City_____ State_____

For more details circle NED-850 E9 on enclosed inquiry slip

Need a Motoreducer with an unusual drive motor?

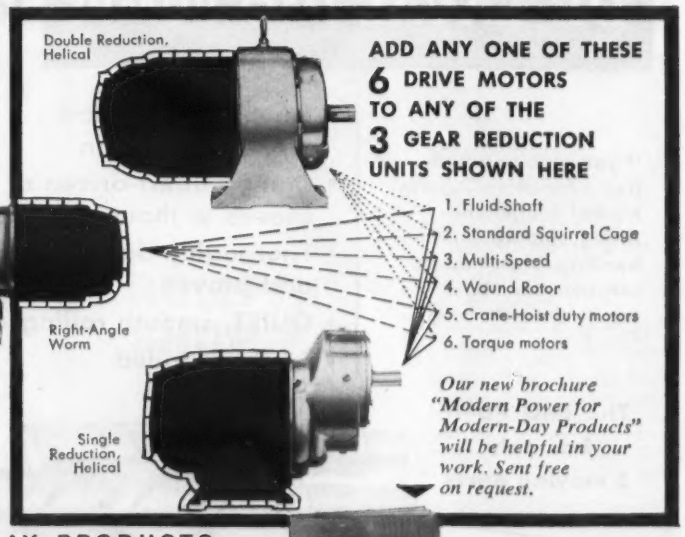
LET REULAND TAILOR A MOTOREDUCER PACKAGE TO YOUR EXACT NEEDS...

No longer must you "make something do"... no longer must you modify *your* machine to fit the *drive!* Hundreds of different speed and power variations can be developed from the three basic Reuland gear reduction units shown at right.

This is made possible through the use of Reuland's famous "Xpandable-Design" idea.

Whether you need a simple motor-and-reducer—or an amazing, automatic combination with a special motor, gear reducer, magnetic brake and fluid coupling—Reuland engineers can quickly solve your drive problem.

Costs are lowered. Development time is saved. Your drive is *right*. Why not see first-hand what a Reuland Motoreducer can do for you.



ADD ANY ONE OF THESE 6 DRIVE MOTORS TO ANY OF THE 3 GEAR REDUCTION UNITS SHOWN HERE

1. Fluid-Shaft
2. Standard Squirrel Cage
3. Multi-Speed
4. Wound Rotor
5. Crane-Hoist duty motors
6. Torque motors

Our new brochure "Modern Power for Modern-Day Products" will be helpful in your work. Sent free on request.

MODERN POWER FOR MODERN-DAY PRODUCTS . . . ALL IN LIGHTWEIGHT ALUMINUM FRAMES!

REULAND MOTORS

Reuland Electric Company—Distributors in all principal cities
Western Division: Alhambra, California • Eastern Division: Howell, Michigan

A DEMONSTRATION UNIT FOR YOUR EQUIPMENT? So sure are we you'll like what you see, we're offering to engineer a demonstration unit for your equipment without the slightest obligation. Just write us.

For more details circle NED-845 E9 on enclosed inquiry slip

GRC Be sure to see GRC at the Design Engineering Show BOOTH 1524

tiny die castings made in one fast automatic operation..simple or intricate parts, high in quality, low in cost

Gries' exclusive patented methods make possible wide design latitude . . . assure uniformity, accuracy and smooth surfaces on small parts of all types . . . for a wide variety of uses . . . at substantial savings. GRC die castings leave the machines trimmed, ready-for-use. In addition GRC's unique single cavity die casting techniques offer new shortcuts in assembly . . . new approaches in product design through our exclusive . . .

tiny zinc die castings

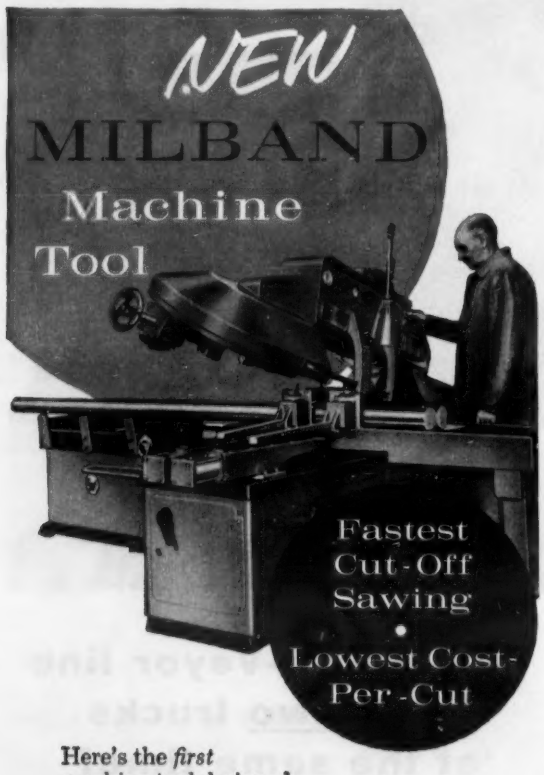
Write for fact-filled booklet "Small Zinc Alloy Die Castings," includes helpful designer's check list.

NO SIZE TOO SMALL!
Maximum sizes up to 1¾", ½ oz.

GRIES

GRIES REPRODUCER CORP.
World's Foremost Producer of Small Die Castings
143 Beechwood Ave., New Rochelle, N. Y. NEw Rochelle 3-8600

▲ For more details circle NED-851 E9 on enclosed inquiry slip ▲



Here's the *first* machine tool designed and built from the bottom up to provide the extra ruggedness and rigidity needed to handle high speed steel band blades with full efficiency. Cuts many times faster than other cut-off methods.

Cuts *consistently* straighter, smoother, more accurately and to closer tolerances. Fully automatic operation gives you more pieces per man-machine hour.

Narrower kerf with less chip loss means big savings in material.

GET THE COMPLETE TIME-AND MONEY-SAVING FACTS NOW . . . *write today for your free copy of Circular No. 501-58, containing full data on the new Milband Machine Tool.*

Saw Blade Specialists for Over 80 Years

THE HENRY G. THOMPSON & SON CO.

SAW & BAND SAW BLADES · BACK · MILFORD · STOCK · SAWS · GROUND FLAT

276 CHAPEL STREET,
NEW HAVEN 5, CONNECTICUT

▲ For more details circle NED-852 E9 on enclosed inquiry slip ▲

New Literature & Catalogs

Manufacturers of Gray Iron Castings

Three sections of the Gray Iron Founders' Society directory and buyer's guide are an alphabetical list of members, a geographical listing of members, and a buyer's guide. Company address, important personnel, types of castings produced, sizes, average monthly production, and other data are included. The 75-page book is available free when requested on company letterhead from the Gray Iron Founders' Society, National City-E. Sixth Bldg., Cleveland 14, Ohio.

▲ For more details circle NED-853 E9 on enclosed inquiry slip ▲

Air Heating, Filtering, Moving Equipment

American Air Filter Co.—16-page composite product Bulletin 518 contains a description of all of company's equipment for air filtering, cooling, heating, cleaning, moving, exhausting, humidifying, and dehumidifying for the benefit of men, machines, and profits. Each is illustrated.

▲ For more details circle NED-854 E9 on enclosed inquiry slip ▲

When & Where To Use Plastics

Commercial Plastics & Supply Corp.—"Guide to Use of Plastics in Maintenance and Safety Applications" is an 8½ x 11-in. publication that relates "what is best used where." Hints on the proper storage and care of plastic sheets, rods, and tubes are included, along with data on selecting the correct plastic for specific applications. Thermosetting and thermoplastic materials are treated separately.

▲ For more details circle NED-855 E9 on enclosed inquiry slip ▲

Selenium Rectifiers

Rectico, Inc.—Basic characteristics of selenium rectifiers are detailed in 8-page illustrated catalog which also includes temperature derating table and an overload and allowable-currents-under-various-forced-cooling curves. Current ratings of cell sizes from 1 x 1 in. up to 6 x 12 in. are listed. Catalog also includes much other useful information.

▲ For more details circle NED-856 E9 on enclosed inquiry slip ▲

Potting Compounds

Mobay Chemical Co.—Technical description of the use of urethane elastomers for industrial potting and encapsulating applications is found in 8-page booklet. Both the polyester-diisocyanate and the polyether-diisocyanate prepolymer system are detailed. Many technical data are presented.

▲ For more details circle NED-857 E9 on enclosed inquiry slip ▲

Long-Life Concrete Floors

Master Builders Co.—How Masterplate "iron clad" concrete floors last up to six times longer than plain concrete floors is explained in 24-page Bulletin MP-4d. Features of this flooring include wear and corrosion resistance, economy, spark resistance, static dissemination, lasting color, and easy-to-clean surfaces.

▲ For more details circle NED-858 E9 on enclosed inquiry slip ▲

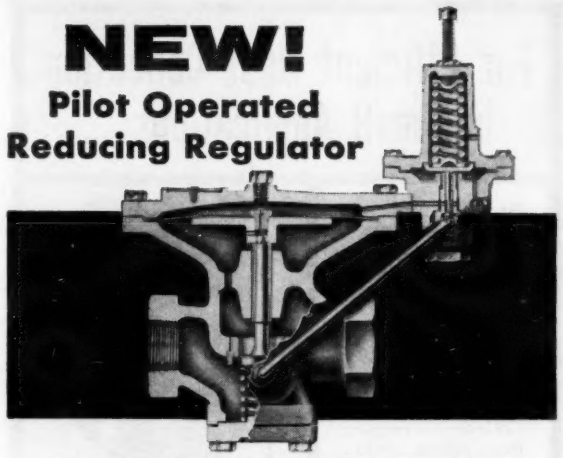
MAGNAFLO SEPARATOR REMOVES FERROUS SOLIDS FROM CUTTING OILS AND COOLANTS

A simple, dependable clarifier for cutting oils and water soluble coolants, this Hoffman Magnaflo Separator removes ferrous solids through the use of magnetic force and delivers sludge in relatively dry form for easy disposal. The Magnaflo Separator consists of only four parts—tank, magnaplate, baffle and sludge scraper mechanism. Dirty liquid drawn across the surface of the Magnaflo plate through the magnetic field causes fines to adhere to the surface of the plate. Clean liquid passes through aperture in the baffle through piping to the outlets. Dual purpose flights on conveyor chain remove solids and sludge. *Fully automatic, the Magnaflow Separator eliminates the need for sump cleaning, changing of filter paper, bags or cartridges and is virtually free of maintenance expense. Handles flow rates from 40 to 1,000 GPM on individual machine tools or central systems.* For free illustrated bulletin FB 105, write Dept. LR.

U.S. Hoffman Machinery Corporation, Industrial Filtration Division, Thompson Road Plant #1, Syracuse, New York

▲ For more details circle NED-860 E9 on enclosed inquiry slip ▲

NEW!
Pilot Operated Reducing Regulator



No. 201-21 Pilot Operated Reducing Regulator features an easily accessible external pilot, bolted directly to the main valve; stainless steel pilot and main valves; fast, accurate response to pressure changes; large capacity, and tight shutoff. Made with iron bodies with screwed connections ¾" through 2" size; ASA Class 250 flanges, sizes 2" to 4". Pressure ranges 2-12; 8-50 and 25-150 psi.

Ask your Mason-Neilan Industrial Distributor. He is ready to serve you and to ship promptly from stock. Ask for catalog or write direct.

MASON-NEILAN
Division of Worthington Corporation
69 NAHATAN ST., NORWOOD, MASS.
Order from your Mason-Neilan distributor — use his experience — save work — save time. MN9-12

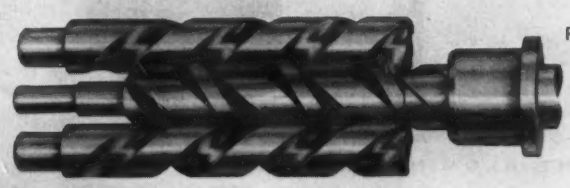
▲ For more details circle NED-861 E9 on enclosed inquiry slip ▲

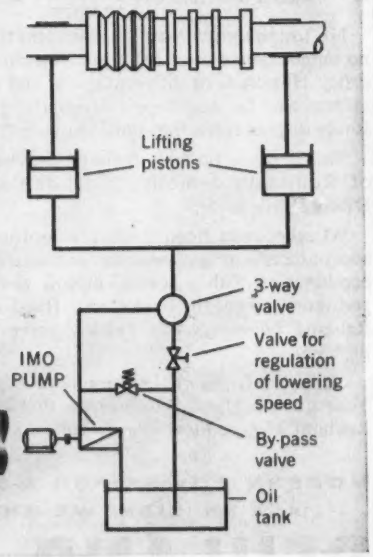
DE LAVAL IMO PUMPS for Power Hydraulics

If you require a hydraulic pump for actuating any kind of equipment—lifting, tipping, loading, bending, pressing, etc.—consider the IMO. Here are its characteristics:

- Smooth power flow without pulsation
- Can be direct-driven at high speeds without reduction gears
- Thoroughly dependable and proved
- QUIET, smooth rolling action
- Easily installed

The IMO PUMP has only 3 moving parts





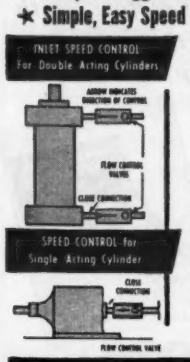
Typical IMO installation for ingot rolling mill. Intermediate roll is hydraulically raised and lowered.

DL455A

DE LAVAL *Steam Turbine Company*
907 Nottingham Way, Trenton 2, New Jersey

▲ For more details circle NED-859 E9 on enclosed inquiry slip ▲

★ Accurate, Constant Cylinder Speed Control
★ Compact Rugged Design
★ Simple, Easy Speed Selection ★ For Air, Oil or Water Applications



Pneu-Trol Speed Control Valves, are widely used in hundreds of control applications because they combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control and a floating retro ball check, which permits full flow in the opposite direction. Retro ball floats in most sensitive position to its seat, requiring only a slight differential pressure to fully open or close it.

Needle design permits maximum flow capacity in the controlled direction. Metal to metal needle and ball seats insure long trouble-free service. Simple, practical "O" gland structure eliminates troublesome leaking. Valve bodies machined from hex brass or aluminum for 2000 psi working pressures; steel and stainless steel for 5000 psi. Made in 5 female pipe sizes—⅛" to ¾". ATTRACTIVE PRICES . . . IMMEDIATE DELIVERY.

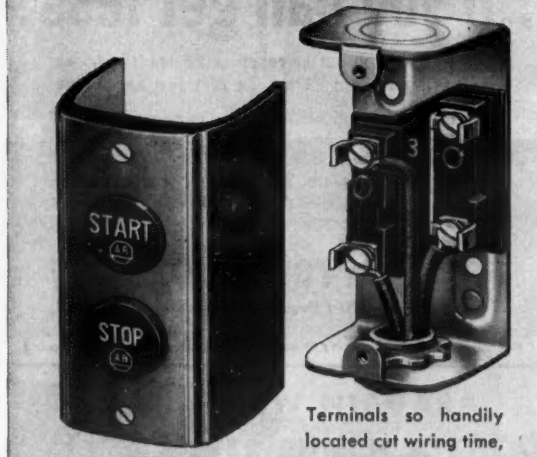
Write for illustrated circular and prices.

PNEU-TROL, INC.
A DIVISION OF AUTO-PONENTS, INC.
292 W. Grant Street • Bellwood, (Chicago Suburb) Illinois

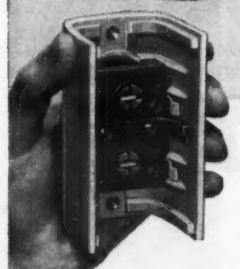
▲ For more details circle NED-862 E9 on enclosed inquiry slip ▲

BULLETIN 800

A Better Push Button that is Easier To Wire



Terminals so handily located cut wiring time, therefore, reduce cost!



Contacts in cover are completely "safe" from careless wiring.

Slip off the molded bakelite cover—terminals are "out in the open" for easy wiring—the installation is completed in far less time than for ordinary stations.

The A-B two-way or three-way selector switch follows the same general pattern—but one can be changed to the other—in seconds! Inventory is thus reduced—an important saving for you.

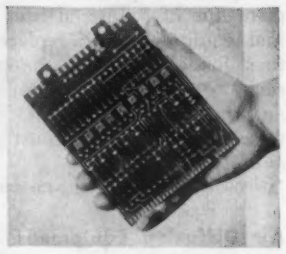
Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.
In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
Quality MOTOR CONTROL

▲ For more details circle NED-863 E9 on enclosed inquiry slip ▲

New Processes & Materials

LAMINATED PLASTIC
copper clad for printed circuits



Formica EP-37, copper-clad paper epoxy base laminated plastic, will not support combustion, minimizing the fire hazard in computer printed circuits. It also has good dimensional stability, excellent insulation resistance, and punchability. The new grade laminate will withstand one hour's exposure to 150° C oven heat without blistering. Even when subjected to 500° F solder bath for 15 sec, no blistering occurs. The new adhesive used to secure the copper to the base laminate affords greater resistance to plating solutions. Made by **Formica Corp.**, 4614 Spring Grove Ave., Cincinnati 32, Ohio.

▲ For more details circle NED-864 E9 on enclosed inquiry slip ▲

CUTTING & GRINDING COMPOUND
leaves an oily film on work

Extreme pressure properties incorporated in SGC-6560 soluble cutting and grinding compound make it suitable for many cutting operations. The long life synthetic product leaves an oily film on the work for rust prevention. It will not turn rancid nor cause skin irritation, and is transparent and nondrying on gages, ways, and moving parts. Made by **L. R. Kerns Co.**, 2659 E. 95th St., Chicago 17, Ill.

▲ For more details circle NED-865 E9 on enclosed inquiry slip ▲

FAST-SETTING FLOORING
material resists chemical attack

Two components of Emeri-Epox flooring material are a dry mix of emery aggregate and epoxy resin, and a liquid catalyst. They are intermixed prior to application on clean, oil and grease-free surfaces. Material can be used for topping or resurfacing concrete, wood, tile, stone, brick, and metal flooring; for setting tile; and for providing water, steam, oil, grease, caustic, sugar, and acid resistance. It is resistant to abrasion and mechanical shock, is flexible, will not shrink, and can be feathered. Application thickness is from 1/16 to ¼ in. Full curing takes place in 8 to 12 hr at 70° F. Standard colors are gray, tile red, and tile green. Made by **Walter Maguire Co.**, 60 E. 42nd St., New York 17, N. Y.

▲ For more details circle NED-866 E9 on enclosed inquiry slip ▲

ROLLPIN® SHOP KIT **$12.00**

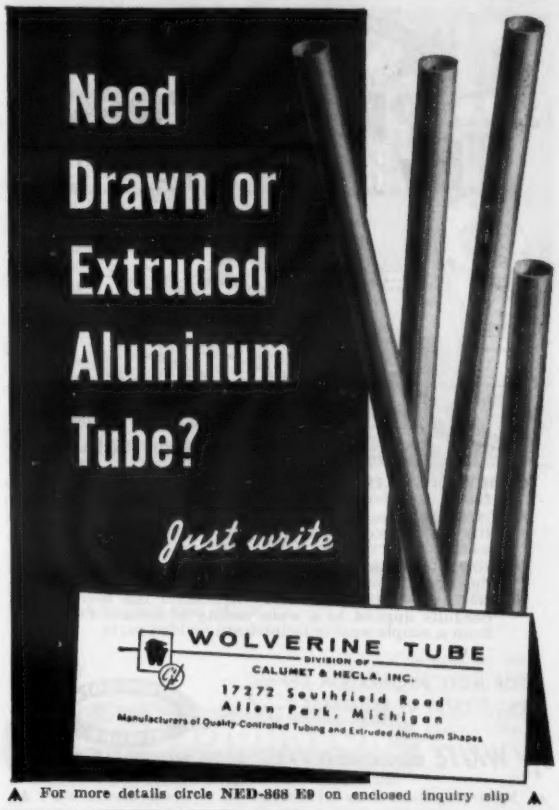
The Rollpins in this handy compartmented kit serve the function of taper pins, straight pins, set screws, rivets, dowels, cotter pins, etc. They're slotted, chamfered, tubular spring pins that exert constant pressure against the walls of the holes into which they're driven. They won't loosen even under severe vibration. Over 700 Rollpins; diameters from 1/16" to ½"—lengths from 3/16" to 3¼".

We guarantee you'll find Rollpins the easiest, quickest solution to hundreds of fastening problems in machine, repair and prototype assembly shops.

Send for Rollpin Kit #300 today. Mail check or purchase order for $12.00 (we pay postage). No C.O.D.'s please. Write: Dept. R57-537.

ROLLPIN TRADEMARK
ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Rd., Union, New Jersey

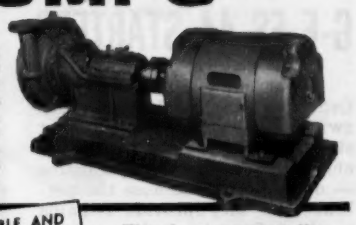
▲ For more details circle NED-867 E9 on enclosed inquiry slip ▲



▲ For more details circle NED-868 E9 on enclosed inquiry slip ▲

Frederick

CENTRIFUGAL PUMPS



Single-End Suction SSV Pump—Equipped with enclosed impeller for clear liquids such as oils, chemicals, juices, acids, etc., or, open impeller for slurries, white water, sluggish liquids. Bulletin #107.

EFFICIENT, DEPENDABLE AND DURABLE FREDERICK PUMPS FEATURE:
INDIVIDUALLY DESIGNED IMPELLERS
INTERCHANGEABLE PARTS FOR FAST, EASY REPAIR
AVAILABLE IN ANY METAL OR ALLOY FOR SPECIAL APPLICATIONS

There's a complete line of Frederick Pumps available. Single and double suction, single and multi stage pumps, including process, paper mill, circulating and boiler feed pumps, motor pump units and vertical pumps. Write for full information and name of nearest representative.

FREDERICK IRON & STEEL, INC.
FREDERICK *Established 1890* MARYLAND

Manufacturers of industrial and municipal products including Drop Balls, Manhole Covers & Frames, Stokers, Shears, Contract Castings.

▲ For more details circle NED-869 E9 on enclosed inquiry slip ▲

NOW...A COMPLETELY SELF-CONTAINED UNIT

the new UPCO HYDRAULIC LIFT TABLE

Lifts complete load at center of lift—no stress on cross arms

- less oil volume
- less oil flow
- higher lift, 43"
- lifts 5,000 lbs. plus overload factor
- lower collapsed height, 9"
- fewer moving parts—less maintenance
- higher speed lifting and collapsing

The UPCO lift sells in economical price range yet offers features of more expensive machines. For free brochure and more details, fill out coupon below and mail to: United Products Co., 3001 N. Starr St., Tacoma 2, Washington.

Some Distributor Franchises still available. Write for full particulars.

UNITED PRODUCTS CO., 3001 North Starr Street, Tacoma 2, Wash.
Send brochure on Upco Lift Table Dept. NED-2
Name
Business Address
City Zone State

UNITED PRODUCTS CO. A Division of Meridan Corp.
3001 North Starr Street Tacoma 2, Washington

▲ For more details circle NED-870 E9 on enclosed inquiry slip ▲

CLOSE TOLERANCES—Tolerances are identical with those that will be found on standard production parts.
FAST SERVICE—Usually it will take only hours from the time the order is received to produce twelve prototype parts using PROTOTYPES by KOTOKAST.
ECONOMY—This is the most economical method of producing prototype parts there is.
NO LIMITATION—PROTOTYPES by KOTOKAST has been successfully applied to a wide variety of designs ranging from a simple washer to intricate molded parts.

FOR MORE INFORMATION ON PROTOTYPES by KOTOKAST . . .

WRITE DEPARTMENT 645 3630 WOODDALE AVENUE MINNEAPOLIS 16, MINNESOTA

▲ For more details circle NED-876 E9 on enclosed inquiry slip ▲

Hints on fluorescent starter selection

YOU CAN USE STANDARD 40W LAMPS IN COLD AREAS WITH G-E FS-44 STARTERS

General Electric FS-44 thermal-switch type starters will start standard 40W preheat lamps reliably at low ambient temperatures — down to 0 F because the preheat time they provide remains constant. Standard glow-switch type starters, under these conditions, require specially-designed low-temperature service lamps for satisfactory operation.

To get more money-saving hints, ask your G-E distributor for the "G-E Starter Selection Chart and Maintenance Guide for Fluorescent Lighting." General Electric Company, Wiring Device Department, Providence 7, Rhode Island.

GENERAL ELECTRIC

▲ For more details circle NED-877 E9 on enclosed inquiry slip ▲

TORIT Mist Collectors CONTROL wet machining MIST

Wet machining operations produce floating fog and mist that could pollute the air in your plant. With the new Torit Mist Collector your men can breathe clean air and work in a safe, dry plant—while your maintenance costs go down! The new Torit Mist Collector filters out moisture through its spun glass filters—saves coolant that can be piped back into your cooling system. For full facts write today to . . . TORIT MANUFACTURING CO.
Walnut & Exchange Sts.
St. Paul 2, Minn. • Dept. 212

THE NEW TORIT MIST COLLECTOR

▲ For more details circle NED-878 E9 on enclosed inquiry slip ▲

New Literature & Catalogs

Industrial Tires & Wheels

B. F. Goodrich Tire Co.—36-page Brochure 9-8350-GT provides specifications and other data on a complete line of industrial tires and wheels for both original equipment and replacement use. Line includes tires for all types of materials handling equipment, such as solid tires, pneumatic tires, semipneumatics, and vulcanized-on wheels. Both solid and pneumatic types are designed to resist cutting, gouging, chipping, and abrasion.

▲ For more details circle NED-879 E9 on enclosed inquiry slip ▲

Air Diffusion Equipment

Waterloo Register Co. — Comprehensive 58-page Catalog 1-59 on the entire line of air diffusion equipment, including removable core grilles with separable frames, is compiled for easy selection. Color key identifies four major product groups. Wall and ceiling type supply grilles and registers; wall, ceiling, and door type return grilles and registers; extruded aluminum Airline grilles; and accessories and miscellaneous products are covered.

▲ For more details circle NED-880 E9 on enclosed inquiry slip ▲

Tungsten Carbide Tools

Adamas Carbide Corp.—32-page Catalog 359 describes and illustrates complete line of tungsten carbide tools, tool tips, dies, wear parts, and Dex-A-Tools. Featured is a Quantity Extra table which makes possible lower prices to carbide users. Throwaway inserts, toolholders, brazed type tools, mechanically held blanks, and standard blanks are catalogued.

▲ For more details circle NED-881 E9 on enclosed inquiry slip ▲

Powered Industrial Trucks

Elwell-Parker Electric Co. — Specifications for all models of powered industrial trucks are listed in 12-page condensed catalog. Six categories under which trucks are classified are fork trucks with capacities to 10,000 lb; fork and ram trucks, 12,000 to 80,000-lb capacities; low lift and high lift platform trucks in 4000 to 80,000-lb capacities; die handling trucks with capacities to 80,000 lb; and mobile cranes.

▲ For more details circle NED-882 E9 on enclosed inquiry slip ▲

General Purpose Relays

Guardian Electric Mfg. Co.—Basic general purpose relays featured in 16-page catalog range from small multicontact midget units to sensitive, heavy-duty, medium power, and power types. Each relay is associated with dimensional drawings, available contact arrangements, current and coil data, operating speeds, terminals, weights, enclosures, terminal headers, and mounting information.

▲ For more details circle NED-883 E9 on enclosed inquiry slip ▲

Sanitation & Building Maintenance

Geo. B. Robbins Disinfectant Co.—Information helpful in solving sanitation and building maintenance problems in industrial plants, and all types of buildings is furnished in catalog and maintenance guide. Products shown in the catalog include disinfectants and deodorants, pest control products, cleaners and detergents, and other sanitation items.

▲ For more details circle NED-884 E9 on enclosed inquiry slip ▲

Fabrication Machines

Wales-Strippit, Inc.—Description of the Strippit system of punching, notching, nibbling, and drilling is provided in 16-page general Catalog L-1465. It includes time studies of fabrication operations, an explanation of the Strippit self-contained stripping mechanism, review of tooling for press brakes and stamping presses, and description of special machines.

▲ For more details circle NED-885 E9 on enclosed inquiry slip ▲

Precision Spur Gears

Invo Spline, Inc.—Guidance to the large stock of standard fine-pitch Master spur gears is offered in 8-page Catalog 158. Charts give required AGMA tolerances and rolling pressures. Diametral pitch, pitch diameter, face width, and bore are listed for each spur gear available for immediate delivery.

▲ For more details circle NED-886 E9 on enclosed inquiry slip ▲

Solid Carbide Tools

Atrax Co.—Engineering and price data on 1230 standard stock solid carbide tools and burrs are provided by 148-page standard reference Catalog 159. It features new speed and feed charts, machining recommendations for all tools, and thousands of metalworking production hints.

▲ For more details circle NED-887 E9 on enclosed inquiry slip ▲

NEW IR EJECTORS Cut Vacuum Costs

New Series M Steam Jet Ejectors, with rugged, two-piece construction, offer big savings for general vacuum service

FOR CREATING vacuums, there is nothing simpler or more reliable than the new Ingersoll-Rand Series M ejectors. Designed to operate with 75 to 200 psig steam, they can handle either dry or wet gases and can be used for priming pumps and other hydraulic equipment. The low-cost Series M line includes 1½", 2" and 3" sizes with threaded connections and 4" size with flanged suction and discharge. For full details, send for new Bulletin No. 9046.

Ingersoll-Rand
4-916 11 Broadway, New York 4, N.Y.

▲ For more details circle NED-888 E9 on enclosed inquiry slip ▲

Why settle for more

...if you can get less?

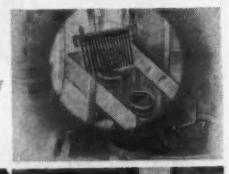
• 3 digits • push button reset • 25 counts per sec.
• operating current 16 ma. • very low noise level

Why buy counters with excess capacity? QZ3R demonstrates the unequalled range of impulse counters Presin Company offers—for the *precise* solution of your counting problem. From 2 to 7 digits, reset—knob, push button, electrical. Speeds to 50 sec. For reading or printing counters—

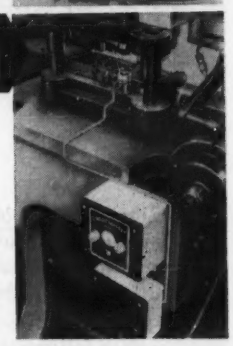
call on Presin Company
2014 Broadway, Santa Monica, Calif.
catalogs on request

▲ For more details circle NED-889 E9 on enclosed inquiry slip ▲

new



CIRCUIT-MASTER missing parts detector



INSURES COMPLETE DIE PROTECTION At Low Cost!

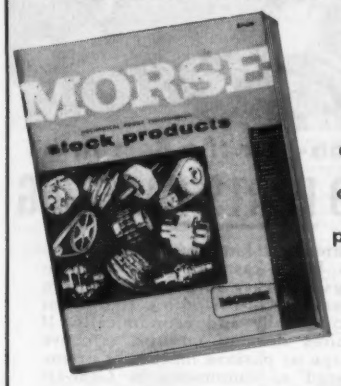
Your expensive dies just can't be damaged when parts fail to eject! The new Circuit Master Missing Parts Detector electronically disengages the clutch of any machine, stopping it before a second piece can cause an overload.
Additional features include the control of: misfeed, buckling, overload and end of material shut-off.
The Missing Parts Detector works on either friction or key clutches, on automatic or manual machines. It's completely automatic insurance for your expensive dies—no controls to set, no adjustments ever!

STOP DIE DAMAGE NOW! *Write, wire or phone today for bulletin 559-N and name of nearest representative.*

WINTRISS, INC.
20 Vandam Street, New York 13, N. Y. • CHelsea 2-0105

▲ For more details circle NED-890 E9 on enclosed inquiry slip ▲

FREE! NEW MORSE STOCK PRODUCTS CATALOG



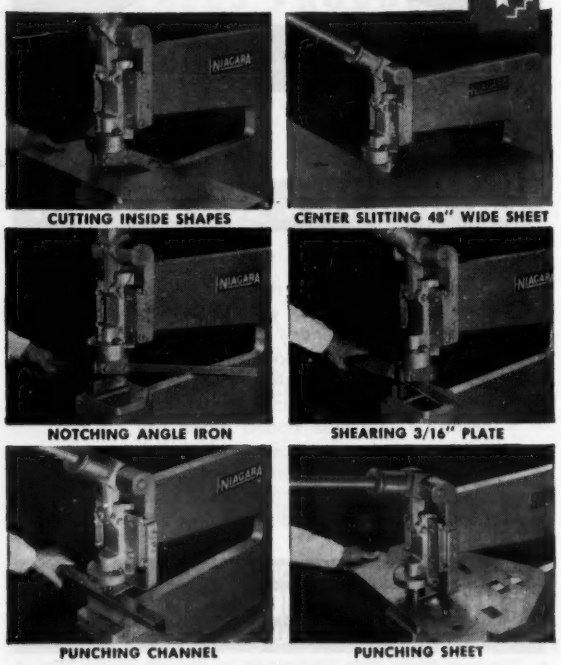
Gives selection and pricing data on all mechanical power transmission products

Big new all-in-one catalog gives properties and features, selection tables, and costs for Morse roller, double pitch, and silent chain . . . flexible couplings . . . torque limiters . . . cam clutches . . . and other Morse power transmission equipment.
Write today for Catalog SP-59 to MORSE CHAIN COMPANY, DEPT. 19-59, ITHACA, N.Y. A Borg-Warner Industry. Export Sales: Borg-Warner International, Chicago 3, Illinois.

MORSE BW *A BORG-WARNER INDUSTRY
*Trademark

▲ For more details circle NED-891 E9 on enclosed inquiry slip ▲

look at a few of the many jobs this one machine can do for you



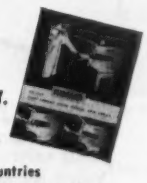
CUTTING INSIDE SHAPES — CENTER SLITTING 48" WIDE SHEET
NOTCHING ANGLE IRON — SHEARING 3/16" PLATE
PUNCHING CHANNEL — PUNCHING SHEET

IT'S THE NEW NIAGARA NO. 5-24 LEVER PUNCH & SHEAR

Yes, this versatile new machine can do all these things and more. With a 5-ton capacity and a 24-inch throat, it is ideal for diversified operations in industrial sheet metal shops, maintenance departments, experimental and model shops.

Equipped (optionally) as a punch or shear or both, it is readily converted from one to the other. A large selection of punches and dies is available for handling a tremendous variety of work.

HERE'S THE COMPLETE STORY
Bulletin 79-B contains detailed information and specifications. Write for your copy.



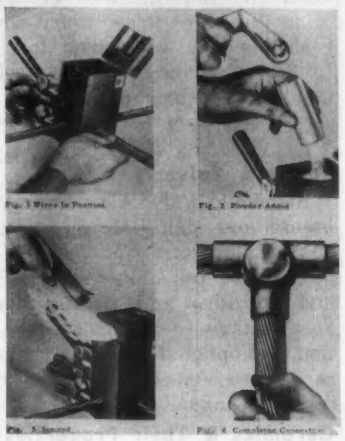
NIAGARA MACHINE & TOOL WORKS, BUFFALO 11, N. Y.
DISTRICT OFFICES:
Boston • Buffalo • Cleveland • Detroit • Indianapolis
New York • Philadelphia
Distributors in principal U. S. cities and major foreign countries

NIAGARA
America's Most Complete Line of Presses, Shears, Machines and Tools for Plate and Sheet Metal Work

▲ For more details circle NED-892 E9 on enclosed inquiry slip ▲

New Processes & Materials

CONNECTOR WELDING assures permanent electric joints



Permanent electrical connections are welded to copper conductors and steel structures by the Thermoweld method. Welds are made without external heat or power in 2 or 3 min, using an easily ignited welding powder in a graphite mold placed over the conductors. The resulting molecular copper weld cannot corrode or loosen, has strength of 18,000 psi, and is highly conductive. Electrical connections can be made to cable, bus, lugs, flat surfaces, and other objects. Now distributed by **Burndy Corp.**, Norwalk, Conn.

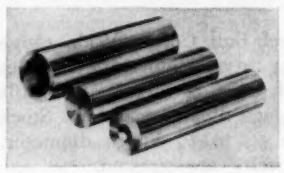
▲ For more details circle NED-893 E9 on enclosed inquiry slip ▲

SEMICONDUCTOR PLASTIC has wide variety of applications

Available for extrusion, calendering, and injection molding is Abbey 100, an electrically conductive polyvinyl chloride compound. As a semiconductor, it has an electrical volume resistivity of 11 ohms per centimeter cubed. Potential applications are electrical tape shielding on microphone cable, ignition wire conductors, antistatic devices, automatic door openers, warming pads, gasketing, conductive dragger wheels, and tubing and impregnated paper for electronic recording instruments. Sample is available from **Abbey Plastics Corp.**, Dept. C, Hudson, Mass.

▲ For more details circle NED-894 E9 on enclosed inquiry slip ▲

ALUMINUM BEARING BARS machinable for any bearing use

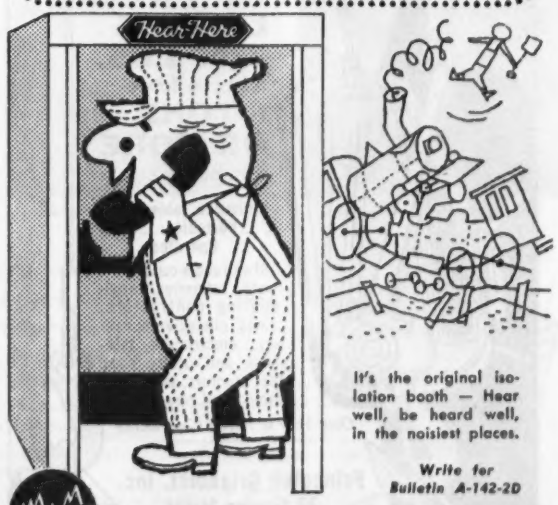


Aluminum bearing bars which can be machined to fit any bearing need are now available. Bars are of Alcoa B-750-T5, an aluminum-tin alloy with such other metals as copper, nickel, and magnesium added to assure fine bearing properties. Stock possesses good heat conductivity, excellent embedability, good ductility, high load carrying capacity, high resistance to corrosion, conformability to shaft, and good fatigue strength. Distributed by **Bunting Brass & Bronze Co.**, Spencer & Carleton Streets, Toledo, Ohio.

▲ For more details circle NED-895 E9 on enclosed inquiry slip ▲

Gotta hurry Joe, I'm parked on the main line — I'd never hear the 5:15 in this —

BURGESS-MANNING ACOUSTI-BOOTH



It's the original isolation booth — Hear well, be heard well, in the noisiest places.

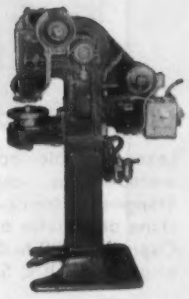
Write for Bulletin A-142-2D

BURGESS-MANNING COMPANY
Sound Engineering Industrial Silencer Division
749 East Park Avenue, Libertyville, Ill.
Dallas, Texas

▲ For more details circle NED-896 E9 on enclosed inquiry slip ▲

Speed up RIVETING and CLINCHING
Automatic feeding and setting with
T-J

Boost production . . . save labor in aircraft, automotive, farm machinery, stampings of all kinds . . . with T-J Rivitors! Automatically feed and set solid rivets. Electrically-powered Rivitor sets 1/16" to 1/4" diam. solid rivets up to 7/8" long. Air-powered Rivitor sets aluminum alloy rivets up to 1/4" diam. or steel rivets up to 1/8" diam. and up to 3/4" long. Throat depths 8" to 36". Write for bulletins 646 and 847. The Tomkins-Johnson Co., Jackson, Mich.

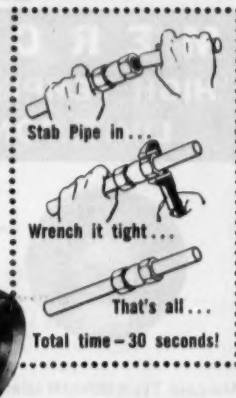


T-J Rivitor used for automotive clutch plate assembly. Does four-fold job—assembling, setting, inspecting, ejecting.

T-J TOMKINS-JOHNSON
RIVITORS . AIR AND HYDRAULIC CYLINDERS . CUTTERS . CLINCHORS

▲ For more details circle NED-897 E9 on enclosed inquiry slip ▲

30 seconds to solve tough piping problems



Dresser Coupling Style 65

Name your piping problem: misalignment, vibration stresses, cramped working quarters, or costs of future maintenance and takedown. Dresser Style 65 Couplings solve them *all*. Installed with a simple hand wrench, it takes you 30 seconds to make a permanent, tight joint! Water, oil or gas lines in diameters up to 2-inches . . . plain end pipe (no threading problems). The non-rigid Dresser® Coupling compensates for pipe misalignment, absorbs stresses and vibrations. Booklet No. 531 further shows many typical cases where Dresser Couplings solved tough piping problems.

Dresser Manufacturing Division, Bradford, Pennsylvania
DRESSER MANUFACTURING DIVISION

▲ For more details circle NED-898 E9 on enclosed inquiry slip ▲

NEW FREE BOOKLET

gives complete facts about Verifax Copying

- Explains *completely different* Kodak method which gives you 5 complete and accurate copies in 1 minute for 2½¢ each. Lists all the extras of Verifax Copying.
- Shows how all departments save with Verifax Copying, includes many valuable short cuts for boss and secretary.
- Describes complete line of Verifax Copiers priced from $99.50.

Write today for your free copy!
EASTMAN KODAK COMPANY
Business Photo Methods Division
Rochester 4, N. Y.
Kodak

▲ For more details circle NED-899 E9 on enclosed inquiry slip ▲

HYDRAULIC LIFT TABLES

Pat. Pending

Lexco portable—adjustable height—hand or foot operated—saves you MONEY—TIME—ENERGY. For lifting and transporting heavy castings, dies, machine accessories and parts to machines and presses. Capacities 500 to 5,000 lbs. Special sizes available—also HYDRAULIC STRIP STOCK and DIE HANDLERS.

Write for free bulletins.

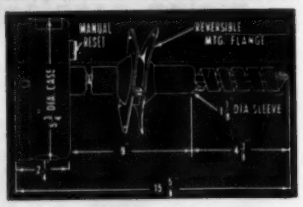
LEXCO ENGINEERING & MFG. CORP.

20 W. Chestnut St. • Souderton, Pa.

For more details circle NED-900 E9 on enclosed inquiry slip

MERCOID HIGH TEMPERATURE LIMIT CONTROL

FM APPROVED



Mercoid Type MX-51R is an adjustable indicating type high temperature limit control actuated by a coiled bimetal element to result in a normally closed mercury (tube type) switch opening in event the supervised temperature reaches the preset limit point. An externally operated manual reset knob is arranged to reset the mercury switch after high temperature operation and normal temperature restoration.

Type MX-51R: SP-ST circuit opens automatically at the preset control setting on temperature rise. Manual reset provided to restore switch to closed position after temperature falls.

OPERATING RANGE

Adjustable: 50 to 650°F.
Minimum Differential: 20°F.

WRITE FOR BULLETIN SEB-51

THE MERCOID CORPORATION
4211 Belmont Ave., Chicago 41, Ill.

For more details circle NED-901 E9 on enclosed inquiry slip

NEW! FROMMELT "PERMA-DOX" DOCK SHELTER SEALS OUT WEATHER . . . SAVES REFRIGERATION . . . WITHOUT MOVING PARTS!

Here is a brand new concept in dock shelters . . . permanently installed protection that practically eliminates maintenance . . has no moving parts—No operation required. Elasticized front, cape cover, with adjustable head curtain snugs out the weather on any height or width of truck as it backs into the dock. Fits docks equipped with bumpers projecting 12" or less. Available only in Fropren.

Write for complete details and prices.

SEE THESE FAMOUS PRODUCTS AT THE MATERIALS HANDLING SHOW . . . BOOTH 1812 & 1814

FROMMELT INDUSTRIES
DUBUQUE, IOWA
PHONE 2-3600

FROMMELT

For more details circle NED-902 E9 on enclosed inquiry slip

New Literature & Catalogs

Packaging of Steel

Signode Steel Strapping Co.—"11 Ways to Reduce Costs and Improve Your Packaging of Steel" is title of an illustrated folder which covers packaging set-ups from complete automation to simple strapping tools. Its "story" is how to make steel products cost less to handle, store, ship, and receive.

For more details circle NED-903 E9 on enclosed inquiry slip

Solenoid Valves

Atkomatic Valve Co.—Over 200 solenoid valves of bronze and stainless steel construction are listed in 36-page illustrated Catalog 444. They are for use from 0 to 10,000 psi and −300 to 500° F with air, steam, and corrosive and noncorrosive gases and liquids. Specifications, performance data, application information, and optional features are given.

For more details circle NED-904 E9 on enclosed inquiry slip

Ceramics & Their Properties

American Lava Corp.—Mechanical and electrical properties of various AlSiMag ceramics are presented in Chart No. 591. Selection charts and performance graphs are included, as are approximate-size photos of many parts produced from the materials.

For more details circle NED-905 E9 on enclosed inquiry slip

Conveying & Power Transmission Belting

Voss Belting & Specialty Co.—Vosstex line of conveyor and power transmission belting described in illustrated bulletin includes rubber, neoprene, and Hycar types. They are suited for manufacturing and food processing equipment. Characteristics of each are given.

For more details circle NED-906 E9 on enclosed inquiry slip

Clutch-Pulley

Warner Electric Brake & Clutch Co.—Clutch-pulley package for direct installation on standard electric motors from 1 to 25 hp is subject of 10-page Brochure WEB P-52. Operation, selection, and specification data on the Electro-Sheave unit are among the contents.

For more details circle NED-907 E9 on enclosed inquiry slip

Carbon Steel Balls

Sterling Commercial Steel Ball Corp.—Wide range of products from auto jacks to ventilators and bicycles to overhead doors in which Sterling carbon steel balls are used is described in 4-page illustrated folder. Stock sizes available range from 1/8 to 3/4 in. in diameter. Their accuracy and uniformity are stressed.

For more details circle NED-908 E9 on enclosed inquiry slip

Tool, Die, Fixtures & Machinery Facilities

Lambert Tool Specialties Co.—Facilities of this company for designing, engineering, and manufacturing tools, dies, jigs, fixtures, special machinery, and production parts are illustrated and described in 8-page brochure. Diversified types of jobs are shown.

For more details circle NED-909 E9 on enclosed inquiry slip

For more details circle NED-910 E9 on enclosed inquiry slip

Gear-O-Mation—For the Best in . . .

AUTOMATED PARTS HANDLING

Gear-O-Mation handles all kinds of parts from precision bearings to bulky castings, from hard-to-handle wire springs to heavy forgings, and from blank to finished gear. G-O-M handling equipment does the job—automatically and economically. If your process requires demand control, selective feeding, active storage or positive movement of any type part—get 'geared' to automation by Gear-O-Mation. They have the 'pre-engineered' equipment that costs you less and works better.

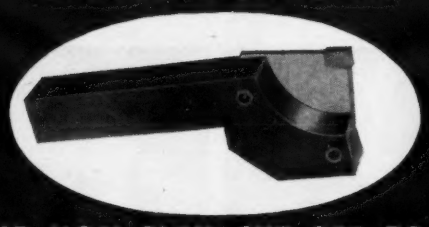
Write for descriptive literature

Washers — Storage Units
Elevators — Distribution Systems
Conveyors — Assembly Devices
Orientors — Demand Feeders

Automation by . . . GEAR-O-MATION
DIVISION OF MICHIGAN TOOL COMPANY
7171 E. McNICHOLS RD. • DETROIT 12, MICH.

For more details circle NED-911 E9 on enclosed inquiry slip

IT CUTS FASTER and LASTS LONGER



THE NON-FLEX CUT-OFF TOOL

The Non-Flex Cut-off Tool can increase your production over 300% and you will make more than 6 times as many cut offs between grinds than with the ordinary cut-off tools. Non-Flex eliminates vibration, blade slippage and breakage and makes straighter, smoother cuts. Very often secondary machining operations are not necessary. Carbide tipped blade will cut off solid or tubular stock of machinable ferrous or non-ferrous metal including titanium. For complete information on Non-Flex, contact your nearest Non-Flex tool distributor or write direct.

TOOL DIVISION
GENERAL MACHINE COMPANY, INC.
EMMAUS, PA.

For more details circle NED-912 E9 on enclosed inquiry slip

Texalon can be used on small pulleys with high belt speeds and high pulley ratios. Works well on both short and fixed center drives.

THE BELT THAT RESISTS CORROSION

Scores of case histories prove that Texalon, the all-synthetic belting by Rhoads resists deterioration under wet or corrosive conditions — moisture, salts, greases, many solvents and other industrial chemicals.

You'll get more productive hours from Texalon in many applications for power transmission, carrier tapes or light conveyors. It springs without stretch, rarely needs shortening. Easily made endless on the job by untrained mechanics in a matter of minutes.

Belt widths up to 24". Write for bulletin to J. E. Rhoads & Sons, Wilmington 99, Delaware.

Typical Texalon Application

Carrier Tapes . . . A printer installed Texalon because of ease of making endless on the machine. Reports Texalon maintains tension . . . still giving fine service after 9 months . . . saving money over woven endless tapes.

RHOADS

Where the Job Selects the Belt . . . Since 1702

For more details circle NED-913 E9 on enclosed inquiry slip

MORSE DRUM ROTATORS

FOR ANY SIZE, TYPE DRUM

Faster, Lower Cost
More Convenient

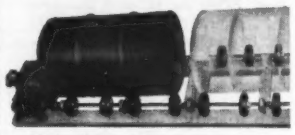
• MIXING • BLENDING
• TUMBLING • CLEANSING

Neoprene drive wheels are oil and chemical resistant. Morse Portable Rotators are available with 10, 20 or 40 rpm. Optional explosion-proof motors. Clip this ad to your letterhead for free MORSE CATALOG.

MODEL 500 The finest portable rotator available. Weighs only 137 lbs., handles drum capacities up to 500 lbs.

MODEL 200 Weighs only 135 lbs., handles drum capacities up to 500 lbs. Retractable wheels. MODEL 200-B for Fibre Drums.

MODEL 1-5154 Heavy-duty, floor mounted rotator handles drum capacities up to 1,000 lbs. MODEL 2-5154 Double Drum Rotator with capacity up to 2,000 lbs.



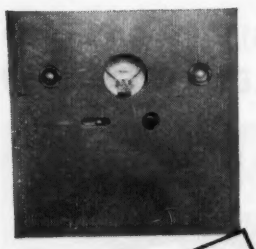
Clip this ad to your letterhead for free MORSE Catalog.

MORSE
MANUFACTURING CO., INC.
756 West Manlius Street, East Syracuse, N. Y.

▲ For more details circle NED-914 E9 on enclosed inquiry slip ▲

OVERLOAD MONITOR

CUTS DOWNTIME...
INCREASES PRODUCTION!



The Sperry MONITRON gives complete overload-underload protection to electrically driven machinery . . . MONITRON instantly initiates desired control action when load varies beyond preset limits, such as releasing clutch, applying brake, signaling warning, etc.

30 DAY FREE TRIAL! Install a MONITRON on your machine . . . prove to yourself that it does everything we claim!

$271

Sperry MONITRON
MACHINE-LOAD MONITOR
Representatives in Principal Cities

SPERRY PRODUCTS, INC. • 1705 SHELTER ROCK RD. • DANBURY, CONN.

▲ For more details circle NED-915 E9 on enclosed inquiry slip ▲

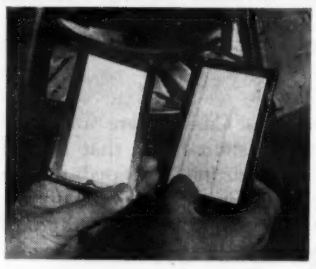
New Processes & Materials

SPRAY HAND PROTECTOR
barrier cream contains lanolin

An invisible protective "glove" to seal out grease, dirt, paints and varnishes, oil, stains, and solvents is given to hands sprayed with Protex-A-Hand barrier cream. It is applied from aerosol spray cans and rubbed into the area to be protected. Washing of hands in water after work period carries off the barrier and any accumulated grease and grime. Lanolin and glycerine in the cream help keep hands soft and promote healing of rough, scaly skin. Small and large aerosol cans are priced at $1 and $2, respectively. Latter size contains over 225 applications. Made by **Acrolite Products, Inc.**, 106 Ashland Ave., West Orange, N. J.

▲ For more details circle NED-917 E9 on enclosed inquiry slip ▲

OUTDOOR PLASTIC FILM
has good weathering properties



Excellent chemical resistance and mechanical strength are combined with good weathering characteristics in type R polyvinyl fluoride film. Nonplasticized film has high tensile strength and flex life, and is usable in products operating at temperatures between −100 and 250° F. Dielectric constant is 7.5 at 68° F and 60 cycles. Satin and glossy finished types can be vacuum metallized and thermoformed, and are post-formable in laminations to plastics, metals, and other materials. Film is offered in maximum widths from 42 to 50 in. and thicknesses from 1 to 4 mils. Photo shows plywood panels covered with the film (left) and paint (right) after 3000-hr and 506-hr exposures in a weatherometer, respectively. Made by **E. I. du Pont de Nemours & Co.**, Film Dept., Wilmington 98, Del.

▲ For more details circle NED-918 E9 on enclosed inquiry slip ▲

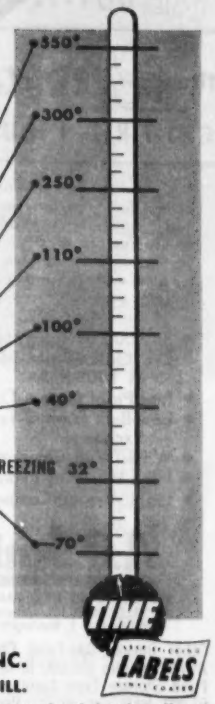
Plastic Laboratory Apparatus

Nalge Co.—24-page Catalog H459 is descriptive of polyethylene and polypropylene laboratory ware such as beakers, funnels, tubing, graduates, carboys, and pipettes. Included are properties of these plastics and a chemical resistance chart to aid in selection.

▲ For more details circle NED-919 E9 on enclosed inquiry slip ▲

TIME HI-TEMP TAPES

+550° to −70° F



TIME HI-TEMP TAPES are remarkably exposure resistant to normal or extreme atmospheric conditions even when subjected to testing equipment simulating these effects.

Ideally suited for testing in
OVENS
STERILIZERS
AUTOCLAVES
INCUBATORS
WATER BATHS
REFRIGERATORS
SUB-ZERO CABINETS

TIME HI-TEMP TAPES are completely unaffected by heat, steam, cold or freezing temperatures, acids or alkalies, moisture or oxidation.

Can be imprinted with your message. For sample and prices write to Dept. 59I.

TIME LABELS

PROFESSIONAL TAPE CO., INC.
355 BURLINGTON RD. • RIVERSIDE, ILL.

▲ For more details circle NED-920 E9 on enclosed inquiry slip ▲

the Right Combination...

QUALITY

"the CHALLENGER"
$397.50 complete
1500 lb. capacity
Model 1056—battery operated

PRICE

"the DRUM HANDLER"
$890.00 complete
1000 lb. capacity
Model 3062—battery operated

SELECTION

"the TELESCOPIC 99"
$699.00 complete
1000 lb. capacity
Model 9972T—battery operated

MORE THAN 80 BIG JOE MODELS

Hydraulic Handling for EVERY Department

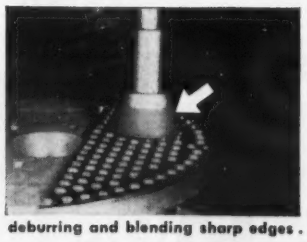
BIG JOE Manufacturing Company
Vernon Blvd.
Wisconsin Dells, Wisconsin

▲ For more details circle NED-921 E9 on enclosed inquiry slip ▲

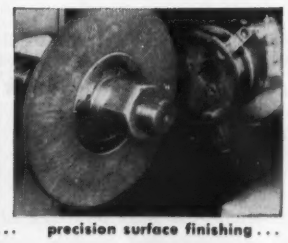
New Idea from... OSBORN®

TY® BRUSHES...designed for jobs beyond the reach of standard wire power brushes

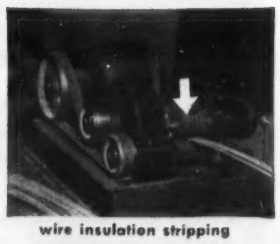
A complete TY® Brush line for . . .



deburring and blending sharp edges . . .



precision surface finishing . . .



wire insulation stripping

Newest idea in modern power brushing methods—Osborn TY® Tool Brushes are *engineered to cut your finishing costs.*

Where rotary files, abrasive stones or belts, tumbling and shot blasting equipment have been used—TY Brushing Methods now do many of these jobs better . . . at significantly less cost.

Do you know which operations in *your plant* can be done at high production rates . . . with better quality control . . . at less cost with new TY Brushes? An **O**sborn **B**rushing **A**nalysis—made now at no cost or obligation—is the first step. Write for full details. *The Osborn Manufacturing Company, Dept. N-7, Cleveland 14, Ohio.*

These exclusive TY Brush advantages have been proved through extensive field tests—

- Maximum of work efficiency with minimum of pressure.
- Greatly increased brushing action strength.
- Positive control over area of brush contact.
- Complete uniformity of finish.
- Exceptionally long brushing tool life.

FREE BOOKLET... write for your copy of "Osborn TY Tools". New 8-page booklet contains complete specifications and illustrated application data covering many of your production jobs.

Osborn Brushes

BRUSHING METHODS • BRUSHING MACHINES • POWER, PAINT AND MAINTENANCE BRUSHES • FOUNDRY PRODUCTION MACHINERY

▲ For more details circle NED-916 E9 on enclosed inquiry slip ▲

NEW.... ...from A. O. Smith

the Burkay® Model 668
GAS-FIRED INDUSTRIAL WATER HEATER

This important new addition offers guaranteed Burkay performance in an entirely new capacity range...provides an economical supply of clean hot water for your cafeteria, lavatories, showers, maintenance and processing needs at the point of use!

- 300,000 BTU per Hour Input
- 288 Gallons per Hour Recovery at 100° Rise
- Rust-Proof Copper Construction
- Low-Bulk Fin-and-Tube Heat Exchanger
- Water-Wall Combustion Chamber
- High-Efficiency Burkay Gas Burner
- Light Weight, Compact Design

A.O.Smith
CORPORATION
PERMAGLAS DIVISION, KANKAKEE, ILL.
A. O. Smith International S. A.
Milwaukee 1, Wisconsin, U. S. A.

Other Burkay Gas-Fired Coil-Type Commercial Water Heaters Available from 110,000 to 420,000 BTU per Hr.... Burkay Gas-Fired Storage-Type Commercial Water Heaters from 50,000 to 97,000 BTU per Hr.... Permaglas Glass-Lined Water Storage Tanks from 80 to 6,000 Gallons.

▲ For more details circle NED-925 E9 on enclosed inquiry slip ▲

AMERICAN
SHAFT-KING
SPEED REDUCERS

5 to 350 RPM
Immediate
off-the-shelf
delivery

- Exclusive torque-arm overload release
- Performance-proved in over 100,000 installations
- Exclusive taper-bushed mounting
- Write for catalog

The American Pulley Company
PHILADELPHIA 29, PENNSYLVANIA

▲ For more details circle NED-926 E9 on enclosed inquiry slip ▲

time-saving, modern
RUBBER-CUSHIONED
STOCK
ABRASIVES

Performance-proved, for broad new applications never before associated with abrasives!

Say goodbye to many older, costlier metal-working methods! Brightboy's original formulation is the reason for its exceptional time-savings and versatility. Abrasive and rubber working together simultaneously, BURR, CLEAN, FINISH, POLISH, often in a single-step operation.

The only complete STOCK line of rubber-cushioned abrasives. Wheels, sticks, rods and blocks, for machine and manual operations. Silicon Carbide or Aluminum Oxide grains, grades extra fine to extra coarse, in soft, firm and tough rubber binders.

Immediately Available! A Comprehensive line of SERVICE-PROVED STOCK NUMBERS JOB-MATCHED TO YOUR WORK

- SAMPLE BRIGHTBOY HAND TABLET
- CATALOG LISTING GRAINS, TEXTURES, MACHINE SPEEDS
- NEW METHOD RECOMMENDATIONS and for name of nearest Brightboy distributor

Write Now for:

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 North 13th Street
Newark 7, N. J.
America's Pioneer Manufacturer of Rubber-Bonded Abrasives

WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

▲ For more details circle NED-927 E9 on enclosed inquiry slip ▲

New Literature & Catalogs

Guide to Grating & Stair Treads

Blaw-Knox Co.—Safety, visibility, permanence, and easy maintenance are advantages of Electroforged open flooring and stair treads explored in 24-page guide. Bulletin 2527-R shows applications of gratings throughout industry as well as in equipment and machines. Technical data are given on types and spacings, safe loads, and actual uses of carbon steel and aluminum interlock grating.

▲ For more details circle NED-928 E9 on enclosed inquiry slip ▲

Filter Fabric Facilities

TechFab, Inc.—Products, facilities, and services of company which offers a complete line of filter cloth and filter specialty items are descriptively covered in 8-page Bulletin T1-59. It includes information on cloth analysis run on all fabric before shipment. Section is devoted to stocked fabrics and the physical and chemical characteristics of each.

▲ For more details circle NED-929 E9 on enclosed inquiry slip ▲

Databook of Stainless Steel

Washington Steel Corp.—Well-illustrated 36-page "Stainless Steel Handbook" is guide to properties and use of MicroRold stainless steel in various alloys and also aluminum. Analyses, surface finishes, available forms, fabrication techniques, and application data are included in this comprehensive guide. Technical section deals with corrosion factors, selection, weights, and pertinent information.

▲ For more details circle NED-930 E9 on enclosed inquiry slip ▲

High-Heat Resistant Finish

Midland Industrial Finishes Co.—Where and how to use Sicon, a high heat resistant finish that is heat stable up to 1000° F, is cited in illustrated 4-page brochure. This silicone base finish is offered in attractive colors and can be spray, brush, or dip applied. It is highly resistant to heat, moisture, oxidation, and light.

▲ For more details circle NED-931 E9 on enclosed inquiry slip ▲

Maintenance, Safety & Production Equipment

Martindale Electric Co. — Information to aid in selecting and using over 110 different products for industrial maintenance, production, and safety is included in 60-page Catalog 32. Details and prices are given for such items as metalworking saws, rotary files, and burrs; electric motor and commutator maintenance items; portable blowers; face shields and dust masks; and test instruments.

▲ For more details circle NED-932 E9 on enclosed inquiry slip ▲

Surface Finish Testers

Micrometrical Mfg. Co. — Just how Profilometer equipment is used for specifying, measuring, or controlling surface finish is explained in 12-page catalog. Various types of mechanical-electronic instruments for checking surface roughness or finish are described, and price list gives added information.

▲ For more details circle NED-933 E9 on enclosed inquiry slip ▲

Motoreducers

Falk Corp.—Revised 28-page Bulletin 3100 is descriptive of line of All-Steel, helical gear, All-Motor, and integral Motoreducers. Revisions cover rerated NEMA motors from 1 through 75 hp, service classifications for the lumber industry, and increased overhung load and thrust capacities for the first three sizes. Selection data are provided and typical installations are pictured.

▲ For more details circle NED-934 E9 on enclosed inquiry slip ▲

Crane-Excavators

Schield Bantam Co.—Specifications and features of 11-ton carrier mounted and self-propelled models and 8-ton capacity crawler mounted crane-excavators are presented in Bulletin 350-1. Eight pages of information on capacities and uses of these machines for handling and construction work are given.

▲ For more details circle NED-935 E9 on enclosed inquiry slip ▲

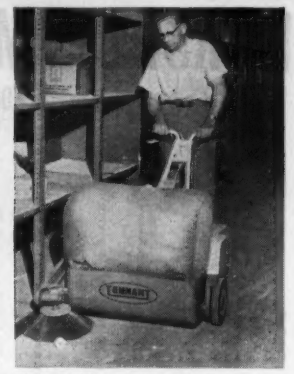
Powder Iron Bearings

Chrysler Corp., Amplex Div.—Reduction of bearing and bushing costs are but a few of the features of the new iron Oilite 212 bearings pointed out in 4-page bulletin. Suited for many applications normally requiring bronze, these self-lubricating powder iron bearings and bushings withstand service not involving corrosion or high mechanical strength. Performance data are given.

▲ For more details circle NED-936 E9 on enclosed inquiry slip ▲

NEW
Low-Cost
Sweeper

Out-performs any other sweeper of its size



CLEANING A 34" PATH, the efficient new Tennant "40" sweeps congested areas at normal walking speeds.

IT'S FAST . . . Sweeps 2 to 5 times faster than a man with a broom—and *equals "big sweeper" standards of cleanliness!*

Operating at speeds to 3 mph and cleaning a 34" path, the compact MODEL 40 can sweep over 2,000 sq. ft. in 5 minutes . . . averages 8,000 to 20,000 sq. ft. per hour in most plants.

IT'S EASY TO USE in crowded, congested areas; turns in its own tracks! Propels itself . . . you merely guide it. Space-saving design (33" clearance) is ideal for narrow aisles.

SWEEPS EXTRA CLEAN . . . gives results *never possible before in sweepers of this size!* Powerful vacuum-and-brush system gets fine dust that brooms miss . . . draws dirt from many cracks. Assures almost 100% "dust-free" work.

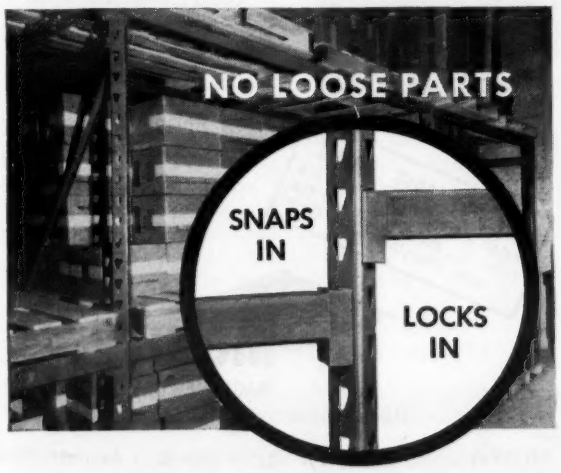
You'll want to learn more about the unusual new TENNANT Model "40" Sweeper. Write for full information *today!*

TENNANT
Industry's Most Widely Used
POWER SWEEPERS

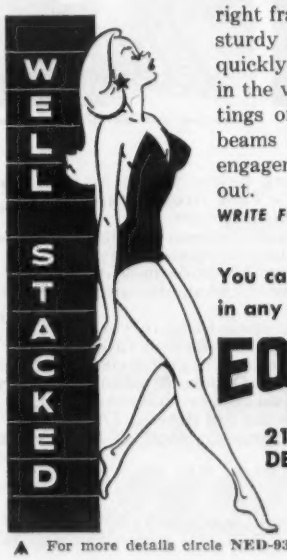
G. H. Tennant Co., 715E N. Lilac Drive, Minneapolis 22, Minn.

▲ For more details circle NED-937 E9 on enclosed inquiry slip ▲

FAST!
EMI *air-row head*
FULLY ADJUSTABLE PALLET RACKS



★ EASY TO ERECT
★ ONLY 2 BASIC PARTS
★ SIMPLE TO ADJUST
★ QUICK TO RELOCATE



EMI AIR-ROW Head Racks easily adjust to stack pallets, skids, dies and bulk of varying heights. Upright frames are tied together with sturdy steel support beams which quickly snap into AIR-ROW slots in the vertical post. Forge lock fittings on the ends of the support beams insure positive self-locking engagement with no sway or pop-out.

WRITE FOR OUR COMPLETE CATALOG!

You can stack or ship ANYTHING in any industry on EMI racks

EQUIPMENT MFG. INC.
21566 HOOVER ROAD
DETROIT 5, MICHIGAN

▲ For more details circle NED-938 E9 on enclosed inquiry slip ▲

Check Angles Quickly and Precisely with the New

ANGLE CHECK, a new dial type measuring instrument, offers you a fast, low cost, extremely accurate method for checking angular parts.

There are two ANGLE CHECKS: Model V for vertical work; Model H for horizontal. Either model takes AMES 200 Series backs. Contact blades are available in various shapes and lengths.

Ruggedly built, ANGLE CHECK saves hours in checking angles on simple and intricate shapes.

The contact blade can be set to a predetermined angle with the dial "0" under the indicator hand. A range of 5°—plus or minus—in increments of 5' can be obtained. ANGLE CHECK is accurate to 5'. Write today for complete information.

Representatives in Principal Cities

B.C. AMES CO.

34 Ames Street, Waltham 54, Mass.

Canadian Office—B. C. Ames Co., 45 Oriole Parkway, Toronto

MANUFACTURERS OF MICROMETER DIAL INDICATORS AND GAUGES

▲ For more details circle **NED-939 E9** on enclosed inquiry slip ▲

the penetrating force of...

COLD STEAM

CLEANS FASTER, BETTER, CHEAPER

Handle all kinds of cleaning jobs with the greatest of ease with HYDRO-AIR. This gun-type cleaner connects to standard air and hot or cold water supply. Compressed air "breaks" water into minute particles producing a dense penetrating force which blasts heavy dirt or quickly rinses metal sheets and small parts. Operates on 1 H.P. compressor and uses less than 3½ c.f. of air and 3½ gals. of water per minute. Easy to handle—weighs less than 2 lbs. Rubber sleeve protects user's hand when hot water is used.

$11.45

● ***NEW... Siphoning attachment for application of cleaning solvents—under pressure—on parts, machinery or any difficult surfaces for cleaning.***

HYDRO-AIR PRESSURE WASHER

BLASTS STUBBORN DIRT! HARMLESS TO FINEST FINISH!

ORDER THROUGH YOUR SUPPLIER—or write direct. (Inquiries invited from industrial cleaning compounders interested in resale.)

D & M PRODUCTS, INC.

26 N. RAYMOND AVE. • PASADENA, CALIFORNIA

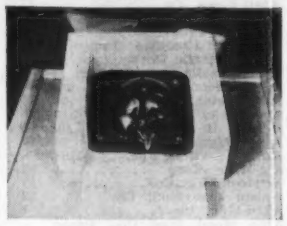
HYDRO-AIR is widely used throughout these industries:

Aviation	Construction	Transportation	Meat Packing
Automotive	Pharmaceutical	Railroads	Baking
Food Processing	Paper	Petroleum	Foundries
Brewing	Ship Building	Mining	Jewelry
Dairy Products	Textile	Metalworking	Leather

▲ For more details circle **NED-940 E9** on enclosed inquiry slip ▲

New Processes & Materials

FLEXIBLE MOLD MAKING is two-component casting system



Polysulfide rubber molds for gypsum patterns, ceramics, or models with fine details are readily made with two-component system. Rubber molds require a single pouring and cure to optimum strength without heat. Three grades are available for maximum strength, for high flexibility, and for use in the ceramics industry. These two-component compounds are sold in units ranging from 1 qt to 55 gal. Made by **Smooth-On Mfg. Co.**, 572 Communipaw Ave., Jersey City 4, N. J.

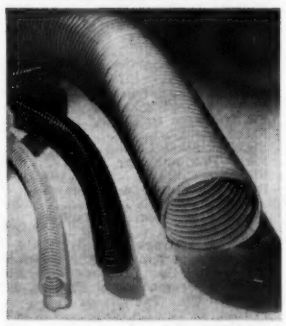
▲ For more details circle **NED-942 E9** on enclosed inquiry slip ▲

CLEANER & DEGREASER for machinery, walls, floors, glass

Concentrated Harco Safety Spray heavy duty cleaner and degreaser is diluted with water to clean many types of surfaces found in industrial plants. According to the amount of water used for dilution, it can be used for degreasing machinery, motors, and diesel equipment; fixtures, tile, glass, and floors; and kitchen or cafeteria equipment. Safely used on aluminum, it is nonflammable, nontoxic, and harmless to hands, and contains rust and corrosion inhibitors. Most economical use is by fine spray or fog, but immersion, mopping, or brushing may also be used. Made by **Harco Chemical Co.**, 341 North Ave. E., Cranford, N. J.

▲ For more details circle **NED-943 E9** on enclosed inquiry slip ▲

REINFORCED PLASTIC HOSE diameters range up to 4 in.



Low pressure air moving, fume handling, suction, and other uses are served by this flexible, wire coil reinforced, Dayflex hose. It is nonporous, resistant to abrasives, inert to most chemicals, and withstands temperature to 180° F. Available in diameters to 4 in., it consists of a tough polyvinyl chloride skin supported by plastic covered steel wire coil which prevents collapsing. Hose can be obtained in a range of colors, transparent, translucent or opaque, and a high surface luster. Strength and flexibility can match needs. Made by **Dayton Rubber Co.**, Dayflex Hose Div., Dayton 1, Ohio.

▲ For more details circle **NED-944 E9** on enclosed inquiry slip ▲

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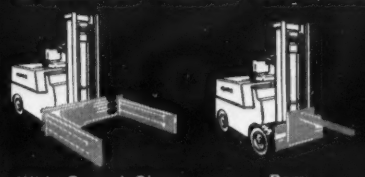

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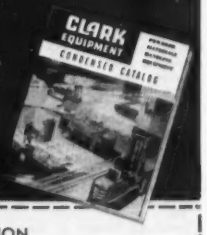

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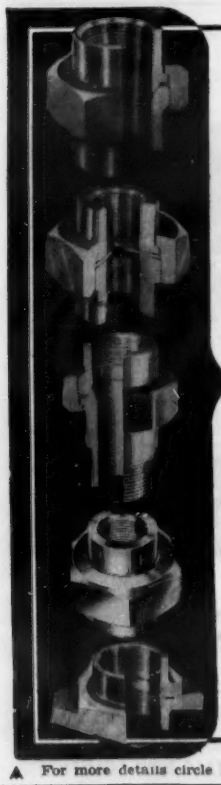

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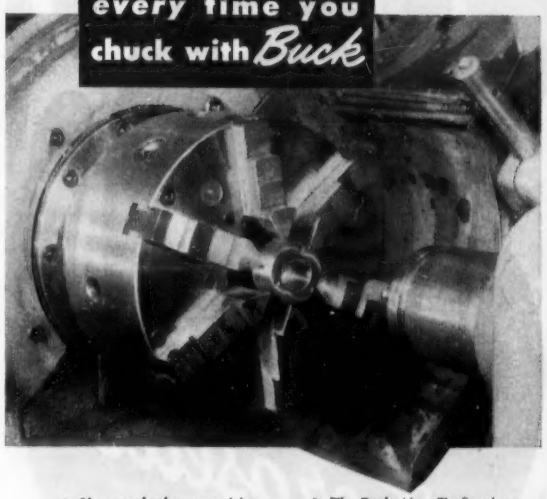

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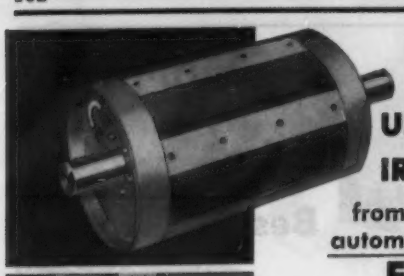

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New Literature & Catalogs

Drafting Equipment & Supplies

Alfred Mossner Co.—100-page catalog "Drafting Equipment & Supplies" is divided into sections dealing with such items as drafting tables, files, and furniture; pencils, instruments, lettering devices, and drafting tapes; templates, T-squares, and triangles; and practically anything needed in an engineering or design department. Prices of all products are given.

▲ For more details circle NED-955 E9 on enclosed inquiry slip ▲

Nylon Core Belting

L. H. Shingle Co.—"The Story of Nylon Core Belting" relates the salient facts about this new flat transmission belting. Features include high running speeds, compact drives, ability to handle shock loads, use of narrow belts and pulleys, nonslip surface, and easy application.

▲ For more details circle NED-956 E9 on enclosed inquiry slip ▲

Facts About Rubber Seals

Minnesota Rubber Co.—Installation information, available compounds, and related engineering and selection data about Quad-Ring, O-ring, and Kapseal rings and seals for aeronautical, missile, ordnance, and industrial use are presented in 24-page "Rubber Fact Book." Media in which various rubber compounds can be used are cited.

▲ For more details circle NED-957 E9 on enclosed inquiry slip ▲

Electric Comfort Heaters

Edwin L. Wiegand Co.—16-page Bulletin F-975C presents performance data on convection, forced air, and radiant types of electric comfort heaters. Surface mounted, built-in wall, or duct types can be individually or wall thermostat controlled. Ratings range up to 170,600 Btu per hr.

▲ For more details circle NED-958 E9 on enclosed inquiry slip ▲

Low-Headroom Hoists

Robbins & Myers, Inc., Hoist & Crane Div.—Type F low-headroom electric hoists in capacities of ½ to 10 tons are described in 12-page Bulletin 920. Mounting options include lug suspension, plain, hand geared, motorized, and fluid drive trolleys.

▲ For more details circle NED-959 E9 on enclosed inquiry slip ▲

Perforated, Slit, or Blanked Materials

Perforating Industries, Inc.—Hole patterns and available sizes of various materials which can be supplied by this company are shown in 16-page manual entitled, "Perforating, Slitting, and Blanking." Coated fabrics, plastics, rubber, hides, felt, paper, fabrics, foam rubber, and imitation leather are among the nonmetals that can be supplied for various needs.

▲ For more details circle NED-960 E9 on enclosed inquiry slip ▲

Corrosionproof Condulets

Crouse-Hinds Co.—16-page Bulletin 2699 entitled "Condulets for Corrosive Locations" gives application, selection, and installation information on a wide range of types and sizes of electric conduit fittings and wiring accessories. Prices are included.

▲ For more details circle NED-961 E9 on enclosed inquiry slip ▲

Electric Power Supplies

Perkin Engineering Corp.—Catalog E59A contains 12 pages of information on magnetic amplifier-transistor regulated direct current power supplies, alternating current line voltage regulators, and static inverters and converters. Capsule data are given on many sizes and types for missile, aircraft, and industrial uses.

▲ For more details circle NED-962 E9 on enclosed inquiry slip ▲

Electronic Thermometers

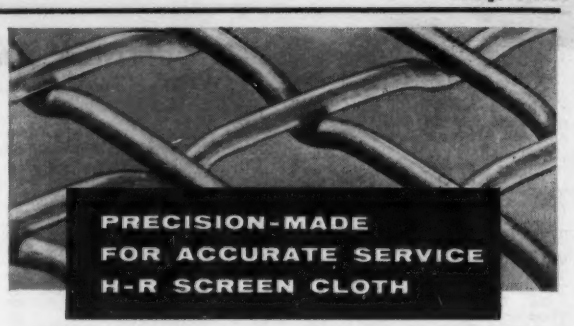
Atkins Technical, Inc.—Usable in temperature ranges between −328° and 845° F, Thermophil thermistor thermometers are extremely accurate. Three and four scale instruments with practically any desired range are described in Bulletin T/VG. This portable electronic thermometer can be used to check temperatures of surfaces, air and gases, liquids, rubber, and plastic masses.

▲ For more details circle NED-963 E9 on enclosed inquiry slip ▲

Induced Draft Fans

Fuller Co., Lehigh Fan & Blower Div.—Induced draft fans with capacities ranging up to over 68,000 cfm are subject of Bulletin L-3. Sixteen pages of performance and application data are given on units for elevated temperature use.

▲ For more details circle NED-964 E9 on enclosed inquiry slip ▲



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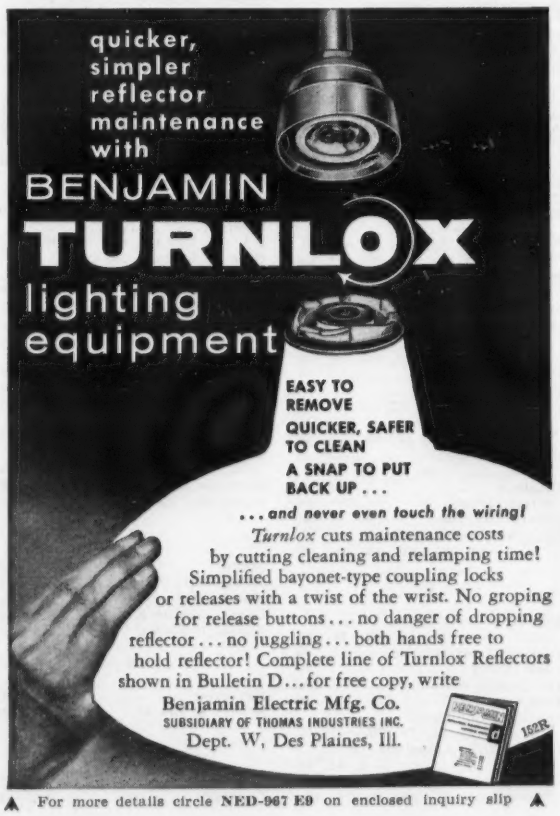

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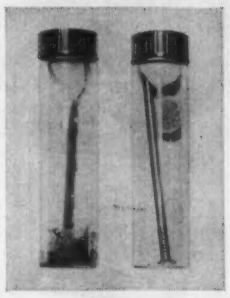
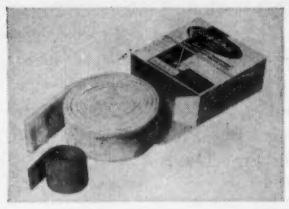
for 50 to 250-cu in. containers



Made of lightweight board material that has been impregnated with a volatile corrosion inhibitor, No-Wrap rust inhibitor discs are used in conjunction with kraft wrappings, folding, chipboard, or corrugated boxes. They can also be used in polyethylene bags and other see-through containers which facilitate inspection of packaged item. Discs vaporize slowly, forming an invisible, corrosion-preventing film around the steel part. They are available in round, square, oblong, and triangular shapes, each with a specific amount of chemical inhibitor for bag volumes from 50 to 350 cu in. Discs are nontoxic and safe for electrical connections. They are packed 1000 per foil bag. Made by **Chippewa Paper Products Co.**, 2425 S. Rockwell St., Chicago 8, Ill.

▲ For more details circle NED-971 E9 on enclosed inquiry slip ▲

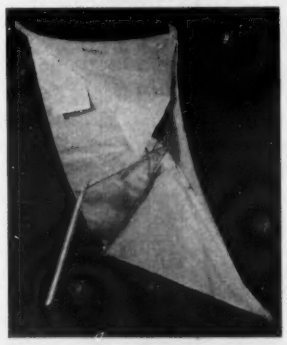
GLASS FIBER PIPE WRAP
insulates and prevents sweating



Inner wrap of improved Easy-Wrap pipe insulating material is now being made of Owens-Corning Fiberglas Aerocor. Outer wrap is a vapor sealing tape. Easy-Wrap prevents condensation and sweating of cold water pipes, prevents freezing in low temperatures, insulates hot water pipes, and prevents cooling. It is available in bulk for commercial use and in a compact package with 25 ft of inner and outer wrap. Offered by **Rhopac, Inc.**, 3425 Cleveland St., Skokie, Ill.

▲ For more details circle NED-972 E9 on enclosed inquiry slip ▲

HEAT REFLECTIVE SHIELD
glass cloth has aluminized surface



Protection from high radiant heat is provided by the Fyrumbrella, made from a nonhygroscopic, rot and mildewproof glass cloth with an aluminized surface. It folds like an umbrella for storage. It is suited for production and maintenance work or fire fighting, and has an opening in the middle for tools or fire fighting equipment. Forward vision is provided by eye ports on each edge of the 5-ft square shield. All parts of the 9½-lb acid and chemical resistant unit are replaceable. It is also available without the frame as a curtain in any size or shape. Made by **Fyrepel Products, Inc.**, Box 503, Newark, Ohio.

▲ For more details circle NED-973 E9 on enclosed inquiry slip ▲

CLEANERS & POLISH
for waste pipes and sanitary ware

Made of sodium hydroxide, Mule-Kick waste pipe cleaner removes stoppages in various types of waste lines. Harmless to the pipes and safe to use, it is packaged in a triple-sealed, air-tight container. Hard-to-remove stains and lime deposits are easily removed from vitreous china fixtures of all types by Mule-Kick closet bowl cleaner. It is harmless to hands and is flushed off 15 min after weekly application, deodorizing as it cleans. Mule-Kick Creme porcelain polish is a blend of soap, abrasive, color, and scent which removes stains and restores gloss to tile, sinks, metal fixtures, linoleum, and painted woodwork. Made by **J. A. Sexauer Mfg. Co.**, 2503-05 Third Ave., New York 51, N. Y.

▲ For more details circle NED-974 E9 on enclosed inquiry slip ▲

SAVES TIME—PROTECTS WORKERS' HANDS

This new Stearns INDOX V permanent magnet sheet fanner boosts production on sheet steel feeding or handling work — reduces the danger of hand injury — protects the sheet finish. Powerful INDOX V magnet causes sheets to repel each other and fan out automatically. The operator can remove single sheets quickly, easily. As top sheet is removed, next one moves up automatically.

INDOX V GIVES BETTER FANNING ACTION

INDOX V — an oriented ceramic magnet exclusive with Stearns — provides a stronger, better field than ordinary sheet fanner magnets. You get positive separation of dirty or oily sheets that tend to stick together.

CUSTOMERS TELL US THIS MAGNET WORKS WHERE OTHERS WON'T DO THE JOB

Henry Furnace Company, Medina, Ohio, writes, "We find your Series 1000 INDOX V sheet fanner to be *the* solution to our problem with *oily* sheets. This magnet is the finest."

For complete details, write for Bulletin 3041L

STEARNS MAGNETIC PRODUCTS
A DIVISION OF THE INDIANA STEEL PRODUCTS COMPANY
635 South 28th Street • Milwaukee 1, Wisconsin

▲ For more details circle NED-975 E9 on enclosed inquiry slip ▲

NEW

COMPOSITE STAYNEW FILTER CATALOG OFFERED FREE

Now you can refer to this one concise catalog for information on all Dollinger Staynew Filters. It describes applications and shows construction details of each of the following:

- INTAKE FILTERS
- PIPE LINE FILTERS
- LIQUID FILTERS
- AUTOMATIC FILTERS
- DRY PANEL FILTERS
- VISCOUS PANEL FILTERS
- ELECTROSTATIC FILTERS

Dollinger also makes all types of special filters . . . consult your local Dollinger representative. But, write today for composite filter catalog. Dollinger Corporation, 49 Centre Park, Rochester 3, N. Y.

PROTECTOMATIC STAYNEW FILTERS **DOLLINGER**
Specializing in dry type filters for 35 years

▲ For more details circle NED-976 E9 on enclosed inquiry slip ▲

The Perfect Seal Against Acids, Alkali, Solvents!
Hot, cold, concentrated, diluted. Temperatures from —150°F to +500°F

Specify Style No. 401 for everything but molten alkali metals, fluorine, hot phosphoric acid and hydrofluoric acid. (Specify Style No. 402 Lubricated *Teflon* Blue Asbestos Packing without glass fiber core for hot phosphoric acid and hydrofluoric acid.) Use the coupon to order 10 ft. of any size (made 1/16 inch to 1 inch in gradations of 1/16 of an inch) and if it doesn't work to your satisfaction we'll cancel the invoice. You'll be surprised at its first cost — it's considerably lower than any other *Teflon* Impregnated Packing on the market.

**DuPont trade-mark for tetrafluoroethylene resin*

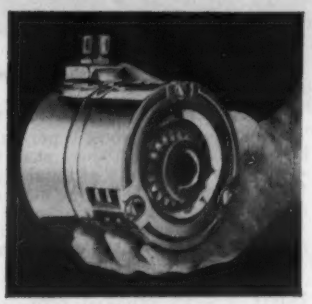
Mechanical Packing Division
FLEXROCK COMPANY, 3603 Filbert St., Phila. 1, Pa.
☐ Please send further information.
☐ Ship 10 ft. length ☐ #401 or ☐ #402 size _____ on memo invoice.
Name _____
Company _____
Address _____
City _____ Zone _____ State _____
Please clip coupon to Company letterhead

▲ For more details circle NED-977 E9 on enclosed inquiry slip ▲

HIGH TORQUE — SMALL SIZE

Stearns MODEL "GS" electro-magnetic disc

CLUTCH



Sets new standards of reliability and maintenance convenience.

TORQUE RANGE —
Dry—12 to 1260 lb ft
Wet (oil)—
16 to 1140 lb ft

SIZE RANGE —
Diameter—4½ to 9¼ inches
Length—3½ to 6 inches

WEIGHT—11 to 79 lb

New, High Torque, Stearns Model GS Clutches — Save on Space . . . Save on installation . . . Save on maintenance . . . Save on machine downtime . . . Save on faster, smoother, more efficient machine operation . . . Save on longer life — low-cost "wear" elements can be replaced "quick-as-a-wink" with just a screw driver as your complete tool kit.

Start Saving Right Now by calling your local Stearns representative. Or write, stating your specific requirements, directly to Stearns.

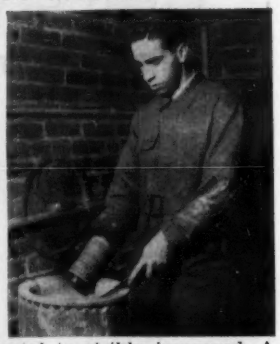
For Superior Performance . . . Specify Stearns!

Request Bulletin 226-D

Stearns ELECTRIC CORPORATION
120 NORTH BROADWAY
MILWAUKEE 2, WISCONSIN
Phone: BRoadway 1-2200

▲ For more details circle NED-978 E9 on enclosed inquiry slip ▲

RECLAIM, RECOVER, REVITALIZE NON FERROUS METALS



Recovery of 95% of Tin, Lead, Zinc, Cadmium or Antimony may be had by use of SLAGO DROSS RECLAIMER.

SLAGO'S newly improved formula instantly on application dissolves dross leaving nothing but fine dirt.

The formula contains SPIRITS of metal which revitalizes metal as Dross is dissolved. The body of the metal is visibly improved. A clean spider web appearance follows the washing action of Slago.

All non-ferrous metals show this visible improvement. The formula is especially effective in preventing TIN burn out in high melting point Babbitt and solders, it increases fluidity and gives better pouring characteristics.

Users of large melts will find no further need to sweeten metal when SLAGO is used as stability is maintained.

A SPECIAL TRIAL OFFER of 6-1 lb. Shaker Top cans of the DROSS RECLAIMER for $5.00, F.O.B. Phila.

HAVE YOU TRIED #1 ACID BRUSHES 25% MORE HAIR $3.50 per GROSS F.O.B.

FARRELLOY COMPANY
1246 North 26th Street Philadelphia 21, Pa.

▲ For more details circle NED-979 E9 on enclosed inquiry slip ▲

NEW! WATER IMPACT SAVES PLUMBING BILLS

Cleans Instantly Difficult Stoppages

Sewers ½" to 6" Diam.

SIMPLE TO OPERATE, THIS NEW GUN DELIVERS AN IMPACT WHICH INSTANTLY DISLODGES OBSTRUCTIONS. NO NEED TO REMOVE PIPE, GREASE TRAP OR CROSS PIECE.

CHICAGO, May 1st—Just introduced is a Free Booklet on a New Discovery which enables the Janitor, Maintenance Man, or Home Owner to clean any clogged Sewer Drain.

Yet anyone can operate this new Plumbers Flushing Gun which releases air pressure on a solid shaft of water cleaning the most stubborn stoppages up to 200 feet. TOILETS, SINKS, URINALS, BATHTUBS, FLOOR DRAINS, and HOUSE - TO - STREET SEWERS clogged with Grease, Rags, Sand, Roots and paper melt away instantly when struck by the Hammer-like blow of this new unit.

There is no need to remove wall or pipe, or Grease Trap. A special attachment allows water to flow from the faucet through the Gun while air is released on the pipe. Vents or stacks are no obstacle, as force tends to strike wherever the water lays. But now, what is this Plumbers Flushing Gun worth in COSTLY PLUMBING BILLS SAVED? Tear this Ad out now—and write your name and address beside it for FREE BOOKLET. Obey that urge. No Agent will call. A postcard will do (Chicago Phone KIldare 5-1702).

MILLER SEWER ROD COMPANY, DEPT. NE-5
4642 North Central Ave., Chicago 30, Illinois

▲ For more details circle NED-980 E9 on enclosed inquiry slip ▲

New Processes & Materials

GRINDING COOLANT contains an effective deodorant

Developed primarily for use with abrasive cutting machines, Campbellene grinding coolant reportedly keeps abrasive wheels clean and sharp, promotes rapid chip settling, and improves quality of cut. It also contains an effective deodorant, will not foam, and inhibits rusting of machine and parts. Under normal working conditions, the chemical concentrate is used 1 part to 150 parts of water. It is packaged in 1-gal cans, 5-gal pails, 14-gal quarter-drums, and 55-gal drums. Made by **American Chain & Cable Co.**, Allison-Campbell Div., 929 Connecticut Ave., Bridgeport 2, Conn.

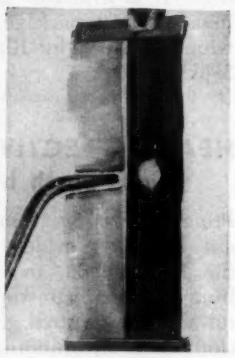
▲ For more details circle NED-981 E9 on enclosed inquiry slip ▲

MOLDED TEFLON ROD has increased tensile strength

Pure Teflon and Miplon No. 215 rods are available in diameters of ⅛, ¼, ⅜, and ½ in. and lengths of 30 in. Miplon is glass fiber filled Teflon. Tensile strength and elongation are reportedly superior to those of extruded Teflon rod because of molding process used. Miplon rod has 2000 psi minimum tensile and elongation of 200 per cent. Stock diameters to 1 in. will be available shortly. Made by **Modern Industrial Plastics, Inc.**, 3337 N. Dixie Dr., Dayton 14, Ohio.

▲ For more details circle NED-982 E9 on enclosed inquiry slip ▲

GRAPHITE TEXTILE yarn, braid, felt, and fabric types



Unique combination of electrical, chemical, and mechanical properties possessed by graphite is now available in flexible textile form for a wide variety of applications. Yarns, braids, felts, and woven or knit fabrics are produced by a process which converts organic textile forms directly to graphite with a purity exceeding 99.9 per cent. Textiles are resistant to attack by acids, alkalies, and most organic compounds, and are unreactive with many molten metals. They have excellent electrical and thermal conductivity, are immune to thermal shock, have increasing strength at increasing temperatures, and possess good lubricating properties. Made by **National Carbon Co.**, 30 E. 42nd St., New York 17, N. Y.

▲ For more details circle NED-983 E9 on enclosed inquiry slip ▲

INDUSTRIAL ERECT IMAGE MICROSCOPE
5, 10 and 20 POWER

Height 8½". Raises to 13". At 5×, working distance 11", 1¾" field diam. Accessory objectives available for 15×, 30×, 40×.

REAL VALUE $80
PRICE ONLY $19.95
10-Day Free Trial

For Checking, Inspecting, Small Assemblies!

Built for hard industrial use. Has features usually found only in much higher priced instruments: fine precision; rack and pinion focusing; color corrected optics; turntable microscope body for inclined views; long working distance under objectives; sufficient eye relief for easy viewing. Priced at only 25% of real value because we were able to save on expensive war surplus optics.

Stock No. 70,172-AE . . . $19.95
Full Price, Postpaid. (Free 10-Day Trial)
Order by Stock No. Send Check or Money Order — or Open Account. MONEY-BACK GUARANTEE.

Write for new 100-Page Catalog AE . . . Describes cost-cutting, work-speeding industrial optical equipment . . . many quality control aids.

EDMUND SCIENTIFIC CO.
BARRINGTON, NEW JERSEY

▲ For more details circle NED-984 E9 on enclosed inquiry slip ▲

New B&D Magnetic Drill Presses

Take tough jobs even upside down

Drilling deckplates or bulkheads . . . large jigs or dies . . . steel beams or channels . . . large plates—wherever a drill press must work upside down, on its side or in tight spots, you'll want a Black & Decker Magnetic Drill Press. Ideal for shipbuilding, tool shops, structural steel fabricators, sheet metal work, welding shops or heavy machinery work. See them now! ¾" or 1¼" capacity. THE BLACK & DECKER MFG. CO., Dept. 1905, Towson 4, Maryland. (In Canada: Brockville, Ontario.)

Leading Distributors Everywhere Sell

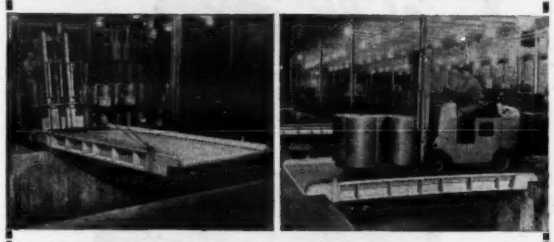
Look Under "TOOLS-ELECTRIC" in Yellow Pages

Black & Decker®

Quality Electric Tools . . . Power-Built to set the pace

▲ For more details circle NED-985 E9 on enclosed inquiry slip ▲

BRIDGING PROBLEM SOLVED!



by Magliner Movable Magnesium Bridges

A sunken, in-plant railroad spur divided the warehouse of the Dearborn Chemical Company, preventing efficient power trucking of materials between the storage areas. Needed: a *movable*, low-cost, bridging system that would not interfere with railcar spotting, loading and unloading.

After considering many types of spanning equipment, the company selected Magliner Magnesium Bridges as the practical solution to their problem. Today, these rugged Magliners provide bridge-aisleways for power truck traffic moving materials from one end of the warehouse to the other. *No detours, no delays!* Heavy loads (up to 10,000 lbs.) move continuously over the bridges . . . smoothly and easily. *Magnesium-light*, the bridges are easily moved to allow ample dock and rail space for car spotting, loading and unloading.

Magliner Magnesium Bridges are available in many lengths, capacities and models—movable, draw-bridge, rail-based, etc. *Tell us your bridging problem . . . we'll be glad to help you solve it.*

WRITE FOR JOB REPORT MB-401
MAGLINE INC.
P.O. Box 55, Pinconning, Michigan
Canadian Factory: Magline of Canada, Ltd., Renfrew, Ont.

MagLiner MAGNESIUM

▲ For more details circle NED-986 E9 on enclosed inquiry slip ▲

INSTANT SETTING FLOOR PATCH

Repair broken factory floors without the usual traffic tie-up. Simply shovel INSTANT-USE into hole or rut — tamp smooth — truck over! No waiting! INSTANT-USE bonds tight to old concrete — right up to a feather edge. It's tough. Wears like iron. Won't crack or crumble. Install complete overlay where floors are badly chewed up. Used indoors or out. Immediate shipment!

MAIL COUPON for TRIAL OFFER and FREE BROCHURE

INSTANT-USE

FLEXROCK COMPANY (Offices in principal cities)
3603 Filbert St., Philadelphia 1, Pa.

Please send me complete INSTANT-USE information, details of TRIAL ORDER PLAN and Free INSTANT-USE BROCHURE—no obligation. (Clip and attach Coupon to Co. letterhead.)

Name .....
Title .....
Company .....
Address .....

▲ For more details circle NED-987 E9 on enclosed inquiry slip ▲